STATE DEPARTMENT INFORMATION PROGRAM—VOICE OF AMERICA

HEARING

BEFORE THE

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

OF THE

COMMITTEE ON GOVERNMENT OPERATIONS

UNITED STATES SENATE

EIGHTY-THIRD CONGRESS

FIRST SESSION

PURSUANT TO

S. Res. 40

A RESOLUTION AUTHORIZING THE COMMITTEE ON GOVERNMENT OPERATIONS TO EMPLOY TEMPORARY ADDITIONAL PERSONNEL AND INCREASING THE LIMIT OF EXPENDITURES

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STATE DEPARTMEMT INFORMATION PROGRAM—VOICE OF AMERICA

THURSDAY, MARCH 12, 1953

UNITED STATES SENATE,
SENATE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS
OF THE COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D. C.

The subcommittee met (pursuant to S. Res. 40, agreed to January 30, 1953) at 10:30 a. m., in room 318, of the Senate Office Building, Senator Joseph R. McCarthy (chairman) presiding.

Present: Senators Joseph R. McCarthy, Republican, Wisconsin; Karl E. Mundt, Republican, South Dakota; Charles E. Potter, Republican, Michigan; John L. McClellan, Democrat, Arkansas; Henry M. Jackson, Democrat, Washington; and Stuart Symington, Democrat, Missouri.

Present also: Roy Cohn, chief counsel; G. David Schine, chief consultant; Ruth Young Watt, chief clerk.

The CHAIRMAN. The committee will come to order.

I have informed some of the Senators that Julius Hlavaty would appear this morning. He has refused to show up. He said the notice was too short, and it may have been. He is being served with a subpena today to appear tomorrow morning.

Who is your first witness, Mr. Counsel?

Mr. COHN. The first witness, Mr. Chairman, is Mr. Bracken, if he is in the room.

The CHAIRMAN. Please step up to the witness stand, Mr. Bracken. Hold up your right hand, please.

In this matter in hearing before the committee, do you swear that you will tell the truth, the whole truth, and nothing but the truth, so help you God?

TESTIMONY OF THOMAS E. BRACKEN, ASSISTANT LEGAL ADVISER, INTERNATIONAL INFORMATION ADMINISTRATION, DEPARTMENT OF STATE

Mr. BRACKEN. I do.

The CHAIRMAN. You may proceed, Mr. Counsel.

Mr. COHN. Will you give us your title, Mr. Bracken?

Mr. BRACKEN. I am an assistant legal adviser in the Department of State.

Mr. COHN. And are you attached to the International Information Administration?

Mr. BRACKEN. I am assigned to handle the legal problems in the IIA.

Mr. COHN. You are assigned to handle the legal problems of the IIA. The reason we asked you to come down here this morning is this, Mr. Bracken: You are familiar, of course, with the project known as Baker West; is that correct?

Mr. BRACKEN. Yes.

Mr. COHN. That is a transmitter site in Seattle, Wash., on which construction was proceeding, and the total cost was to be about $10,000,000; is that right?

Mr. BRACKEN. That is correct.

Mr. COHN. There was some dispute that arose as to whether or not this site was mislocated and should not be further south, and as a result of that the day after this committee commenced hearings, the work on Baker West was suspended. Do you recall that?

Mr. BRACKEN. That is correct.

Mr. COHN. The day following that, Dr. Compton, who was then the Administrator of IIA, appeared before this committee and testified about the suspension of Baker West and indicated that he had ordered, not a floating type suspension, but a complete shutdown, so that the taxpayers' money would not be spent on what appeared to be a mislocated project.

The committee has now received information that, in spite of that assurance from Dr. Compton, taxpayers' money in large amounts is still being expended on Baker West. That is in spite of the fact that the Bureau of Standards has reported to this committee that Baker West is definitely a mislocation and that on 90 percent of the days, 50 times the power would be required at Baker West as compared to a proper southern location.

Now, Mr. Bracken, we would like to know if it is a fact that moneys are still being spent at the suspended project of Baker West?

Mr. BRACKEN. The contracts have not been terminated.

Mr. COHN. The contracts have not been terminated?

Mr. BRACKEN. They have not been terminated.

Mr. COHN. Is it a fact that money is being spent there?

Mr. BRACKEN. That would be true; yes.

Mr. COHN. Can you first give us a figure as to how much money, total, is being spent, say, per month at Baker West?

Mr. BRACKEN. On a so-called suspended basis, I would estimate that approximately $25,000 a month would be spent.

The CHAIRMAN. Approximately $25,000 a month is being spent as of now?

Mr. BRACKEN. Yes.

The CHAIRMAN. In other words, a little less than a thousand dollars a day. Would you tell us what that is being spent for in view of the fact that there is no construction work being done on Baker West at this time?

What was the language of Dr. Compton, Mr. Counsel, with respect to the suspension of the project?

Mr. COHN. I have it here, Mr. Chairman. I have here the proofs sent back from the Government Printing Office; page 24, of Dr. Compton's testimony of February 17.

He was asked by you, Mr. Chairman, when you were inquiring to determine whether or not this was a complete suspension, so no more money would be spent:

> The CHAIRMAN. Dr. Compton is here; he wrote the order. I assume he can tell us what type of suspension this is. What type of suspension is it?
>
> Dr. COMPTON. I certainly did not intend any floating type of suspension. I mean to shut it down until we can get a complete reexamination. As a matter of fact, the nature of these contracts, this 8½-percent clause, and so on and so forth, was one of the specific reasons why in my judgment we had better shut it down at once.

So it was very clear from Dr. Compton's testimony that there was to be a complete shutdown and no expenditure of funds.

The CHAIRMAN. In view of that order of the then head of the IIA, which I assume has not been revoked by the new head of IIA, can you tell us why you are spending nearly $1,000 a day on this mislocation?

Mr. BRACKEN. The order which went out to the contractors, irrespective of what might have been said here in this committee, was to the effect that the contracts were to be suspended and not terminated.

The CHAIRMAN. Then you mean Dr. Compton was in error when he tried to explain the type of order he had sent out?

Mr. BRACKEN. If he had in mind that he was to terminate the contracts in their entirety, he did not instruct the rest of the Department to that effect.

The CHAIRMAN. The staff informs me that the IIA up to this time has not asked a report from the Bureau of Standards, which is the logical Government agency to ask for a report on a project such as this. The committee asked the Bureau of Standards for a report and received the report in a matter of days.

I am curious to know why, if you have this in a suspended state, you are spending nearly $1,000 a day, and up to this moment you have not asked for a report from the Bureau of Standards?

You understand when I say "you," I am not referring to you personally. That may not be your job. I refer to the IIA.

Mr. BRACKEN. Frankly, I don't know why they have not asked for a report from the Bureau of Standards. I would assume that they would seek all technical advice possible. Obviously, I am not consulted on that type of decision.

The CHAIRMAN. Do you know whether a report has been received up to this time from the Massachusetts Institute of Technology on this propagation study as to the proper location of Baker West?

Mr. BRACKEN. To my knowledge, I have no record or no knowledge of the fact that a further report from Massachusetts Institute of Technology has been received.

The CHAIRMAN. Will you explain what this money is being spent for?

Mr. BRACKEN. Yes, Senator. In working out a suspended basis for the contract, the contractor believes that he should keep a certain number of people in his Portland office, who are accountants, who are bookkeepers and such. In addition to that he felt that he should keep an office in New York, consisting of one individual who acts as liaison with the Department.

Speaking approximately, the office in Portland would cost about $4,000 per month. The office in New York would cost about $1,500 per month.

In addition to that, the contractor as of today, in my opinion, is still entitled to a proportionate part of his entire fixed fee.

Mr. COHN. That is the profit part.

Mr. BRACKEN. Yes.

The CHAIRMAN. In other words, you say he is entitled to a part of the profit he would have gotten on the contract had it been completed. You say he is entitled to a proportionate part of that. Are you paying a part of that profit each month?

Mr. BRACKEN. The matter as to the amount of the fixed fee has not been decided as yet.

The CHAIRMAN. The question is: Are you paying him at the present time a part of what you think his profit would be had he gone through with the contract?

Mr. BRACKEN. He is claiming that, and I would assume that we would have to pay part of it in any event.

The CHAIRMAN. You were asked yesterday by some of the staff members whether it was not true that you were paying part of that profit to him which he would have made had the contract been completed, and that you are paying a certain amount each month. The question is how much a month?

Mr. BRACKEN. He agreed to keep the project——

The CHAIRMAN. How much a month are you paying on the profit? I am not speaking of the maintenance of auditors and the maintenance of men, and I am not speaking of rent on the machinery. The question is how much are you paying this contractor on the profit which you estimated he would have made had he completed the contract? How much money are you paying him each month?

Mr. BRACKEN. May I explain that, Senator?

The CHAIRMAN. First give us the figure and then you can explain it. Is it a figure of about $10,000 a month?

Mr. BRACKEN. Yes. I will take the figure, if I may explain a moment.

The contract is so drawn up that after he completes certain stages of work he gets paid certain amounts of his fixed fee. To date he has been paid about $40,000 of that fixed fee. He contends that if he keeps the contract in a suspended basis, because of his overall direction, because he keeps the office going and things of that sort, he is still entitled to a fixed fee until such time as it is determined to either terminate the contract or to do otherwise. He stated he was prepared to take approximately $7,500 a month for his fixed fee during the suspension interval.

The CHAIRMAN. Mr. Bracken, your title is legal adviser, is it?

Mr. BRACKEN. Assistant legal adviser.

The CHAIRMAN. I realize it is not your task to make the decision on whether a contract should be terminated, or not, but in view of the fact that you have been consulted on this maybe you can answer some of these questions for us.

We have before us now the report of General Stoner made back in 1952, about a year ago, in which he said that this is a mislocation, the project should not be located here.

We have the testimony that Mr. Kaplan, who was either killed accidentally or committed suicide in Boston, had been sent to southern California to pick a proper location, that he had located two places for the station. That is about a year ago. That was then can-

celed even though General Stoner had advised Dr. Compton that Seattle was the wrong location, even though the Bureau of Standards states that it would take 50 times as much power at certain times of the day, 90 percent of the time.

In view of that I am curious to know why you are continuing this contract when apparently you tell us that it could be terminated and Dr. Compton told us it had been terminated. Do you know why it is being continued? Why is this expense going on day after day?

That is especially important in view of the tremendous amount of testimony of Mr. Harris that they went to such great length to close down 1 desk to save a total of $10,000 or $15,000. Do you follow me?

Mr. BRACKEN. Yes, sir; I do.

The CHAIRMAN. In other words, there was a great plea for the taxpayer on the part of Mr. Harris, the Acting Administrator. He said, "We closed down this desk because we saved around $15,000, or something like that." Now we find you are spending nearly $1,000 a day on a project which apparently all engineers agree is a bad project. Every engineer we have had here says this is a mislocation. Some have said it is a deliberate sabotage of the program to get the proper signals to the proper area. We asked the Voice and the IIA and the State Department whether they wanted additional engineers called, and they informed counsel they did not desire additional engineers called and felt that we were getting a complete picture.

Is that correct, Mr. Counsel?

Mr. COHN. That is correct, Senator.

The CHAIRMAN. In view of that unanimity of opinion, that a mistake was made, that it should be changed, why do we continue to spend about $1,000 a day, if you know? As I say, I know this is not your responsibility, but you may know something about it.

Mr. BRACKEN. I would assume, Senator, that there are people in the Department who feel that there is a possibility of continuing on at that site.

The CHAIRMAN. Despite all the engineering advice to the contrary?

Mr. BRACKEN. I would assume so, yes.

The CHAIRMAN. Can you conceive of any reason why the Voice has not called on the Bureau of Standards for a report as to whether this is a wrong site?

Mr. BRACKEN. I don't.

The CHAIRMAN. The Bureau of Standards is set up for this purpose; they have experts. It is conceded, I believe, that they are the only organization fully equipped to conduct a propagation study of this kind. I believe I referred to the Voice; I should refer to the IIA.

Do you have any idea why they have not asked for a report from the Bureau of Standards?

Mr. BRACKEN. I have no idea why they have not. I have been informed in various conversations with the people concerned that they have gone far and wide in order to get expert technical testimony on the site. It has been a subject of high controversy within the Department for a year or more, and most people have had an opportunity of expressing their opinion from a technical standpoint.

The CHAIRMAN. You say it has been a point of high controversy. From all the information we have there was no controversy insofar as the engineering aspects were concerned. General Stoner had reported

to Dr. Compton that this was a mislocation. He said, and I think I can quote him, "It would be worse than a calculated risk to continue on, but if we move we have to explain to the Congress and the press and that might adversely affect our ability to get appropriations."

So the controversy has not been over the engineering aspects, but from the public-relations standpoint, is that correct?

Mr. BRACKEN. No, sir; Senator. I believe the controversy has been from an engineering standpoint, and I have been informed recently——

The CHAIRMAN. By whom?

Mr. BRACKEN. By General Stoner, by Mr. Herrick, by other engineers. Apparently at the present time they are seeking further advice of outside technical engineers on this particular matter.

The CHAIRMAN. Do you know what outside engineers they are seeking advice from, because if there is any engineer who differs from the Bureau of Standards, who differs with the engineers who say this is a mislocation, we would like to have him here and find out if there is anything to it. Do you know the names of any engineers?

Mr. BRACKEN. I am informed that General Stoner has consulted with Mr. A. D. Ring, consulting engineer in Washington, and Mr. Maury Pierce.

The CHAIRMAN. You have been informed he has been consulting Mr. Ring. Mr. Ring has been in the Pacific for 2 or 3 months. He could not have been consulting with a man out in the Pacific, or does he do it by long-distance telephone?

Mr. BRACKEN. I believe Mr. Ring left for the Pacific rather recently; I would say within the period of the last 10 days.

The CHAIRMAN. Counsel tells me Mr. Ring has been out in the Pacific for over 2 months.

Mr. COHN. I would say, Mr. Chairman, since the Baker West controversy started, the day after it began, we were advised by Mr. Crosby of the State Department that Mr. Ring had left for the Pacific and was not available to talk to the committee. I think this was 1 day after we held the first open hearing on this. I assume that if Mr. Crosby said that he went, he went.

The CHAIRMAN. If Mr. Ring has been gone ever since Dr. Compton ordered this project discontinued, Dr. Compton could not have been consulting with Mr. Ring.

Mr. BRACKEN. Mr. Ring, to my knowledge, was in this country after Dr. Compton ordered the suspension of the contracts because I talked with Mr. Ring.

The CHAIRMAN. Mr. Counsel, will you call Mr. Crosby and find out whether he was telling the truth when he said Mr. Ring had left and could not be questioned by this committee. We want to question him. Mr. Crosby said that he was gone. If he has been in the country and consulting with General Stoner, we want to know it.

Mr. BRACKEN. He might have left quickly after that, but I saw him immediately after that suspension order.

The CHAIRMAN. Let me read the concluding sentence in the report from the Bureau of Standards: "To deliver a satisfactory signal on at least 90 percent of the days at a given time of the day, a transmitter located at Seattle would require about 50 times the power of a transmitter at San Francisco or at San Diego. San Francisco and San

Diego do not possess any appreciable advantage with respect to each other."

Are you aware of this report?

Mr. BRACKEN. I have not read that report.

Senator MUNDT. Mr. Chairman, the witness was about to give us the names of some more engineers. I think we should get those names.

The CHAIRMAN. I think we should, too.

Mr. BRACKEN. The other engineer who was with Mr. Ring was Mr. Maury Pierce. Mr. Maury Pierce at one time worked for the Voice, and to my knowledge now he is the head of a radio station, I think, out in the Middle West somewhere.

Senator MUNDT. Are there any others?

Mr. BRACKEN. They are the only two I recall at the moment.

Senator MUNDT. What we are trying to do is to get to the facts, and we have been beseeching the State Department for a long time to suggest some engineers who would come in with facts to support the location of these transmitters, Baker East and Baker West, if they have them. We cannot find them. We are eager to hear them.

I do think that somebody is becoming pretty negligent down there in the State Department by not providing that kind of evidence, because the taxpayers' money is obviously going to be wasted if we do not get the facts. If you are with the State Department, I wish you would convey to whoever has charge of this particular activity that the time is almost here when, if they have engineers to be heard, that they should send them up here to be heard.

The CHAIRMAN. May I say, Senator Mundt, that we have gone into detail with the proper members over in the State Department on this subject. They have had copies of the testimony, and they have informed counsel that they are satisfied with the evidence taken insofar as engineering is concerned, that they have no witnesses to contradict this.

I am inclined to think that Dr. Johnson, the new head of the IIA, was entitled to rely upon the sworn testimony here, namely, that this project had been discontinued, that no more money was being spent on it. I do not think we can blame the new head of the IIA for this until it is brought to his attention. It will be brought to his attention today, of course, and I assume he will take appropriate action.

I mention that because I think it should be clear that as far as the new team over in the Department is concerned, I think they are trying to clean up this situation.

Let me ask you, have you consulted any of the engineers yourself?

Mr. BRACKEN. Over a period of the last year and a half, various people concerned with the location of the site have discussed the matter with me, and from those various discussions I conclude that there has been a difference of opinion from a technical viewpoint.

The CHAIRMAN. Senator McClellan, have you any further questions?

Senator MCCLELLAN. Mr. Bracken, apparently very little of this controversy comes under your jurisdiction, as I understand it. But if there has been serious controversy within the agency with regard to the location of Baker West, and there is no controversy or serious differences of opinion regarding the suitability of the southern sites in San Francisco or San Diego, why is it necessary to take such a

long time to determine whether you will continue with the project at Baker West?

Apparently there is no testimony before the committee indicating that either San Francisco or San Diego would not be a much better site. In fact, all of the testimony apparently is that they have great advantages over the present site of Baker West.

I cannot understand why all this long delay with a suspended contract that is costing you $1,000 a day in coming to a definite decision once and for all, either to continue the construction of Baker West, or abandon it and remove the site, or construct the facility on a site where there is no controversy and where there is no disagreement as to its suitability. What is causing the delay under those circumstances, if you know?

Mr. BRACKEN. I don't know what is causing the delay. I think that you have presented the situation, that the most important thing is to have a quick and final determination.

Senator MCCLELLAN. That is true in view of the report before the committee from the Bureau of Standards which, so far as I know in testimony before the committee up to now, is unchallenged by the Department or by the agency or by anyone else. I cannot understand, unless you have something to present from a competent source to clearly convince this committee that this report of the Bureau of Standards is subject to challenge, why there should be procrastination and delay at the expense of $1,000 a day to the taxpayers.

Mr. BRACKEN. I concur heartily in that, Senator.

Senator MCCLELLAN. That indicates that there is something wrong, a lack of initiative or a lack of aggressiveness, to try to resolve this problem, is that not right?

Mr. BRACKEN. Yes, sir.

Senator MCCLELLAN. I am not blaming you or anyone. But if a mistake has been made, as it now appears, that is going to involve a wasteful expenditure, as I see it, of some $15,000,000 or $18,000,000 in the construction of these facilities, then some action should be taken to correct it and not simply a suspension that is dragging along here at the expense of the taxpayers that can never be recouped. If you are going to abandon it, this is just money thrown away.

Mr. BRACKEN. I agree heartily with you on that, Senator, that a prompt and final decision should be made, and I certainly hope that the people charged with that responsibility will make it as rapidly as possible.

Senator MCCLELLAN. You had no responsibility, did you, regarding the contract that is made for the construction of Baker West? It seems to be an awful bad contract as far as the Government is concerned. Did you have any responsibility in connection with that?

Mr. BRACKEN. I had the overall legal responsibility for that, yes, Senator. I happened to be out of the country during a good part of the time that negotiations on the contract were going on. On the other hand, I might say in some defense for a moment that the contract follows the form of the ordinary cost-plus-fixed-fee contract. The form which is normally used by the Army and Navy, that is.

Senator MCCLELLAN. You do not mean to tell the committee that the 8½ percent advance on purchases per month, with the right of the contractor when the equipment is purchased to own it, control it, is a

standard contract of cost plus fixed fee? You would not tell the committee that, would you?

Mr. BRACKEN. I certainly would not, but if I may say this: There was no provision in the contract itself for the payment of 8½ percent.

Senator MCCLELLAN. How does that come about if it is not a contractual obligation? Why are they doing it?

Mr. BRACKEN. The contract itself states that the rate to be paid to the contractor shall be determined by the contracting officer.

Senator MCCLELLAN. So it is not a contractual obligation, but a determination that is being made that is left under the terms of the contract to the discretion of others, is that correct?

Mr. BRACKEN. And that is necessary to allow flexibility, because machinery could be used 24 hours a day and the depreciation rate is great.

Senator MCCLELLAN. Or it may not be used at all.

Mr. BRACKEN. That is right.

Senator MCCLELLAN. Is there a ceiling placed on that allowance? Is there a ceiling placed on the discretion of that authority in whom the discretion reposes?

Mr. BRACKEN. I know of no ceiling except ordinary common sense and good business practice.

Senator MCCLELLAN. Can you always anticipate that will follow?

Mr. BRACKEN. We must place that responsibility upon our contracting officer.

Senator MCCLELLAN. Would you say that this contract conformed to that criterion? I have reference to the discretion that is being exercised to pay the 8½ percent per month.

Mr. BRACKEN. I am, of course, not qualified to speak as to whether 8½ percent is too much or too little.

Senator MCCLELLAN. Maybe I am not qualified, either, but if I can exercise a little common sense, it seems to me like a very exaggerated sum.

Mr. BRACKEN. I may say that the contractor takes the position, and informed me recently in the West, that he does not consider 8½ percent excessive.

Senator MCCLELLAN. That is the contractor that informed you?

Mr. BRACKEN. Yes, sir; and that is the amount of money that he is paid by the State of Oregon for his machinery on road work in Oregon.

Senator MCCLELLAN. This is a different type of work, though, is it not? Notwithstanding you have a road contractor constructing it, it is entirely a different type of work from road work, is it not?

Mr. BRACKEN. They use big and heavy pieces of machinery, bulldozers and pushers, and so forth. It is not too far removed.

Senator MCCLELLAN. You think a good road builder could build the station, or would be competent to build the station?

Mr. BRACKEN. I don't know. I assume that he could.

Senator MCCLELLAN. Unless he possessed some other qualifications and experience, I doubt it, do you not?

Mr. BRACKEN. The work which the contractor is doing out there up to date has been, for instance, a matter of clearing and taking stumps off.

Senator MCCLELLAN. That is what he has done to date. But that is not what he contracted to do. He contracted to do all of it.

Mr. BRACKEN. He subcontracts a good part of it.

Senator McCLELLAN. That is all, Mr. Chairman.

The CHAIRMAN. I have just one or two questions. As of today you are still paying the 8½ percent on the machinery which is not being used; is that right?

Mr. BRACKEN. Eight and one-half percent is being paid on the machinery which is still on the site. The engineer has been requested to ask the contractor to get the machinery off the site as rapidly as possible.

The CHAIRMAN. Has he gotten the machinery off the site, or any of it?

Mr. BRACKEN. Yes. As of 7 or 8 days ago I estimate that he had gotten off nearly one-half of the machinery.

The CHAIRMAN. You say that there is no contractual obligation to pay that 8½ percent per month. You say that is decided by the contracting officer. Who is the contracting officer?

Mr. BRACKEN. Senator, may I——

The CHAIRMAN. The question is, Who is the contracting officer?

Mr. BRACKEN. The contracting officer at the present moment would be, I assume, Mr. Seymour.

The CHAIRMAN. Mr. Frank Seymour?

Mr. BRACKEN. Yes.

The CHAIRMAN. Mr. Seymour succeeded Mr. Herrick?

Mr. BRACKEN. Yes.

The CHAIRMAN. So that you say this 8½ percent is being paid not because of any provision in the contract, but because Mr. Frank Seymour thinks it should be paid?

Mr. BRACKEN. No, sir; that is not correct.

The CHAIRMAN. Then tell us who is responsible for the 8½ percent being paid on the machinery that is not being used.

Mr. BRACKEN. The contract contains no provision for paying 8½ percent.

The CHAIRMAN. Did you understand my question? The question is, Who is responsible as of this moment today for the 8½ percent being paid on this machinery which is not being used, some of which has never been used? Who is responsible for it? I want to get the name of the man. We want to get him here.

Mr. BRACKEN. If I may answer your question directly as to who is responsible for it, it is the Administrator of the IIA. If he terminates the contract then there is nothing further to be paid.

The CHAIRMAN. You say that someone decides whether it should be 8½ percent, whether it should be 3 percent, or 5 percent, or 6 percent. You and I know Dr. Johnson does not do that, so let us not have any of that. Let us get the name of the man who is responsible, and you are going to answer that.

Mr. BRACKEN. I certainly will. May I say this, Senator, to correct what has been said, that there is a contractual agreement to pay 8½ percent, but it is not contained in the contract itself. A subsequent communication to the contractor after negotiation stated that the Department would pay 8½ percent on the machinery.

The CHAIRMAN. So that you say that subsequent correspondence set the fee at 8½ percent. That would make it a part of the contract.

Mr. BRACKEN. A part of the contractual agreement.

The CHAIRMAN. It would make it a part of the contract.

Mr. BRACKEN. I will agree it is a part of the contract.

The CHAIRMAN. You just got through telling us that there was no contract to that effect. Now you tell us it is a contract, but it was made subsequent to the original contract. It is made by letter, you say?

Mr. BRACKEN. If I recall, I was asked why the 8½ percent was in the contract which the legal advisers' office drew up. I stated there was no provision for 8½ percent in that contract.

The CHAIRMAN. My question to you is, Who is responsible for our paying 8½ percent as of today upon that machinery which is not being used? If you do not know that, tell us you do not know.

Mr. BRACKEN. I will say I don't know.

Senator MCCLELLAN. May I ask him a question, Mr. Chairman, at that point?

The CHAIRMAN. Yes, certainly.

Senator MCCLELLAN. As I understand—if I can get your testimony clearly in my mind—in the original contract the 8½ percent was not specified?

Mr. BRACKEN. That is correct, sir.

Senator MCCLELLAN. But was left to the discretion of the contracting officer on the part of the Government?

Mr. BRACKEN. That is correct.

Senator MCCLELLAN. Later, by correspondence between him and the contractor, the 8½ percent was agreed upon?

Mr. BRACKEN. That is correct.

Senator MCCLELLAN. And therefore, by that correspondence and by the authority conferred and the power vested in the contracting officer on the part of the Government to determine, he did determine and then they agreed upon that amount?

Mr. BRACKEN. That is exactly right.

Senator MCCLELLAN. Whether it was an undetermined factor in the original contract but was subsequently determined and confirmed by writing, it now becomes a part of the agreement?

Mr. BRACKEN. That is exactly right.

Senator MUNDT. Mr. Chairman?

The CHAIRMAN. Mr. Mundt.

Senator MUNDT. Is this 8½ percent in addition to the other fee that the contractor receives? Is it a fixed fee?

Mr. BRACKEN. Yes. Under the contract he is to receive a fixed fee of $150,000 for the complete job.

Senator MUNDT. He will get $150,000 plus these 8½ percent advances?

Mr. BRACKEN. That is correct.

Senator MUNDT. Plus his costs?

Mr. BRACKEN. Pardon me, sir?

Senator MUNDT. Plus his costs?

Mr. BRACKEN. Plus his costs.

The CHAIRMAN. In other words, a profit of $150,000?

Mr. BRACKEN. That is correct.

The CHAIRMAN. And you are proceeding to pay him that profit each day even though he is not performing the contract?

Mr. BRACKEN. He is claiming that profit, and I would assume that we would have to continue to pay him that profit until such time as the Department makes up its mind whether it wants to go on a suspended

basis, when he is likely to reduce the profit, or terminate it, when the profit would stop.

Senator MUNDT. What would happen if the $1,000 a day payment were stopped?

Mr. BRACKEN. That would constitute termination of the contract, if we were to inform him that we were not going to pay any more under the contract. It would be in effect termination of the contract.

Senator MUNDT. What claim would he have, then, against the Government?

Mr. BRACKEN. He would possibly, for the period since the contract was suspended, I would assume, say, "I want a proportionate amount of the fixed fee to cover this month or 2 months," or whatever it may be. He would have no claim as such because of the termination of the contract. The cost plus fee contract is of such a nature that the Government may terminate it without incurring any overall liability as a result of the termination.

Senator MUNDT. So if you were to terminate it outright, he would have no claim against the Government?

Mr. BRACKEN. Except for this interim period since February.

Senator MUNDT. If you were to terminate it as of today, he would have no claim against the Government?

Mr. BRACKEN. The claim that he would make is that since the time of the suspension he is entitled to a fixed fee.

Senator MUNDT. Up to today?

Mr. BRACKEN. That is right.

Senator MUNDT. I understand that. I am asking you whether if you were to terminate it as of today, he has any further claim against the Government?

Mr. BRACKEN. I don't think he would have any claim of any sort.

Senator MUNDT. It would seem to me if the contractor is in that position he would very naturally desire to continue the contract because he considers it good business for himself.

Mr. BRACKEN. I think so.

Senator MUNDT. With that situation prevailing, I cannot see why the State Department could not go to him and say, "We have to consult some more engineers, this thing has gotten very controversial, the Bureau of Standards is on the other side, and the engineers we were depending upon to support us are beginning to wilt under the pressure of facts submitted by the opposition. We want to hold this thing in suspension for 60 days."

I do not see why you have to pay him $1,000 a day. He is interested, certainly, as a contractor in trying to get the job done.

I think you have driven a poor bargain. I think you are in a better bargaining position than that and that you could have said, "We do not have to terminate, we hope we do not have to terminate it, we hope the evidence will support the location which we have selected, but for 60 or 90 days until we can get this thing ironed out, we will have to suspend."

I was wondering what persuasive argument he could use to get you to pay $1,000 a day when he has no claim at all if you were to terminate the contract outright?

Mr. BRACKEN. In direct reply to that, he simply says, "Do you want guards at the site in order to protect the Government property there?" And we would normally say, "Yes." Six thousand to seven thousand

dollars a month will be used to keep guards at the site for the protection of public property. Furthermore, he would say, "Do you wish us to completely disband the accounting group we have together here, the bookkeeping group?" And if we were to say "Yes," then I think it would more or less throw the thing in some chaos, because it would mean all operations would stop immediately and bills would not be paid, and contractors who have claims would have nobody to turn to. So to some extent you have got to taper the thing off. You have got to do that.

The CHAIRMAN. That sounds like a drunk tapering off on 2 quarts of whisky a day, does it not?

Mr. BRACKEN. It can be tapered off by simply terminating the thing today.

Senator MUNDT. I can see how if the thing is still controversial in the minds of your engineers you might want some time.

Mr. BRACKEN. Yes.

Senator MUNDT. I would not quarrel with that particularly. The committee is not trying to arbitrarily ask for a suspension of the contract if there is any authentic evidence to support the present location. We have been unable to get it. We have been unable to induce anybody to come up and testify in support of these positions.

The question that comes to my mind is whether you could not have driven a better bargain than $1,000 a day, if that is what you are paying. That sounds like a lot of money for guards and a few bookkeepers. I would like to subcontract that one myself.

Mr. BRACKEN. It costs $6,000 a month for guards, according to the figure I was given at the site. It costs approximately $5,000, or so, to keep his office expense going in Portland.

Senator MUNDT. May I inquire what you are guarding with $6,000 a month for guards? What are you protecting up there?

Mr. BRACKEN. There is a lot of heavy radio equipment on the site at the present time, transformers, and so on.

Senator MUNDT. How big a site is it?

Mr. BRACKEN. Subject to some check, I would probably say there are probably 800 acres.

Senator MUNDT. How many guards have they got?

Mr. BRACKEN. They were estimating, I think, on the basis of six guards.

Senator MUNDT. Three shifts would be 18 guards, if you have a 24-hour shift, at $6,000 a month.

Mr. BRACKEN. They have buildings on the site. In addition to the guards, the contractor felt that he should have a representative there to correlate, if nothing more, the work of the guards.

Senator MUNDT. Nineteen men at $6,000 a month.

Mr. BRACKEN. Nine you have counted?

Senator MUNDT. Nineteen. I am saying 6 guards, and I am assuming each one works an 8-hour shift, and the guard is on duty 24 hours a day, and I multiply that by 3, and that would be 18, and 1 person to represent the contractor, which sounds reasonable, and that is 19. Nineteen men at $6,000 a month.

The CHAIRMAN. I did not so understand his testimony. I understood they had six guards hired. Is it 6 guards or is it 18?

Mr. BRACKEN. I understand it is six guards.

The CHAIRMAN. A total of six guards?

Mr. BRACKEN. That is right.

Senator MUNDT. That is probably two guards on each shift. Then you have seven people getting $6,000 a month. That is right good pay.

Mr. BRACKEN. Let me point this out, that the actual cost of the people up there, whether they are guards or supervisors or such, is paid directly by the Government. If it is felt, as we get machinery off the site, that that can be reduced to 3 people or even 2 people, it will be done. It is a matter of calculation to the best interests of the United States Government as to how many people you should have.

Senator MUNDT. Is the prevailing rate $800 a month for the guards?

Mr. BRACKEN. I don't think it is.

Senator MUNDT. Do you not think the legal counsel should explore a little bit to see why it costs $6,000 a month for seven guards?

Mr. BRACKEN. When I mentioned seven guards and the representative of the contractor, who, I would assume, gets $600 or $700 or $800 a month, it was on the basis of the figure of $5,000 a month that was given to me. That is as it was explained to me.

Senator MUNDT. Are you satisfied with that explanation or that price for that small number of guards?

Mr. BRACKEN. From the standpoint of adding their salaries up, it would certainly seem to be high.

Senator MUNDT. It certainly does to me.

Mr. BRACKEN. It certainly does.

Senator MUNDT. They pay them better than they pay Senators.

I do not know whose job it is to enforce this contract, but somebody should be representing the taxpayers' interest in there. In the first instance, I thought you could drive a better bargain than $1,000 a day. I am certainly convinced you can get the guards for less than $800 a month.

If a period of suspended animation in the contract is desirable—and I am not prepared to quarrel with that because this committee wants to get the facts, this committee does not want to assume the responsibility of suspending a contract if there is evidence on the other side, or you have to wait for someone to arrive from the Pacific in order to reply—I am wondering if you could not have driven a better bargain. I am thinking in terms of $1,000 a day and guards being $800 a month, according to your testimony. I tried to make it easier by saying 19, but if you say 7, I am willing to accept your figure.

The CHAIRMAN. I have Dr. Compton's testimony before me. Before I quote that, let me preface it with this quotation:

> The CHAIRMAN. Now, in view of Dr. Compton's statement that the contract has not been terminated, that operations and construction have been suspended, is it your opinion that the $20,000-a-month rental will continue to be paid?
>
> Mr. FREEMAN. If it is a floating suspension, but there are various types of suspension.
>
> The CHAIRMAN. Dr. Compton is here. He wrote the order. I assume he can tell you what type of suspension it is. What type of suspension is it, Dr. Compton, so that the witness can answer?
>
> Dr. COMPTON. I did not intend any floating type of suspension. I meant to shut it down until we could get complete reexamination such as I mentioned yesterday afternoon. If, as a matter of fact, the nature of this contract, this 8½-percent clause, which was one of the specific reasons why my judgment was that we had better shut it down, we want to get at that and eliminate that. If we have to take further action, we do that right away.

I may say, Mr. Legal Counsel, that my opinion is that the new head of IIA, Dr. Johnson, is trying to do a good job. I am curious to know why you or someone else did not call this situation to his attention.

I assume you and I will agree that after the sworn testimony of Dr. Compton that the operations were being knocked off completely, that there would be no further cost, the question is, Why did not the legal department say to the new Administrator, Dr. Compton was mistaken, we are still paying about $1,000 a day? Why was that not done? Why was not Dr. Johnson informed about that? I am sure if he had been, he would have taken action.

Mr. BRACKEN. The administrative determination was made, presumably representing Dr. Compton's viewpoint, to suspend rather than to terminate the contracts, and a telegram went out to that effect.

Senator POTTER. In other words, you are saying that his testimony to us was not the fact?

Mr. BRACKEN. I will say that he instructed a suspension of the contract, sir.

Senator POTTER. He told us that he had ordered that it be completely closed down.

Mr. BRACKEN. Unless some administrative people refused to follow his direction, I have no other explanation.

Senator POTTER. Who sent out the order?

Mr. BRACKEN. The order would have come again through Mr. Kimball's office and Mr. Seymour's office.

Senator POTTER. When was the order issued? When was the telegram sent?

Mr. BRACKEN. Subject to correction because I don't recall the date, I would say it was about February 17.

Senator POTTER. You don't know whether Dr. Compton misrepresented the facts to the committee, or whether the subordinates of Dr. Compton failed to carry out his orders?

Mr. BRACKEN. No, I do not.

Senator POTTER. But it is one or the other?

Mr. BRACKEN. What you read, Senator, seems fairly conclusive as far as I am concerned to the effect that they were going to shut down. I don't know what he means by this floating suspension.

Senator POTTER. Who was the man that sent out the order? What is his official capacity in the Department?

Mr. BRACKEN. It would stem from Mr. Kimball, who was Assistant Administrator for Administration, and his representative in New York, Mr. Seymour, to Mr. Herrick.

The CHAIRMAN. Can you, as the legal officer, get us all the correspondence in regard to Baker West since this hearing commenced? Is that available?

Mr. BRACKEN. The correspondence with the contractor, Senator?

The CHAIRMAN. Correspondence with anyone with regard to Baker West.

Mr. BRACKEN. Yes.

The CHAIRMAN. You will be ordered to produce anything that is not classified. When can you produce that? We are curious to know what wires were sent and what letters were written in regard to this project. How soon can you get that material?

Mr. BRACKEN. I can certainly have it by tomorrow morning.

The CHAIRMAN. Will you have it here by 10:30 tomorrow morning?

Mr. BRACKEN. Very fine, sir.

The CHAIRMAN. You started to add up the figures to give us this total of $25,000. You say there is about $10,000 paid to the contractor on the profit which he would have received had the contract been completed?

Mr. BRACKEN. We are now speaking of March?

The CHAIRMAN. Let us speak of March, then. How much to run the Portland office by the contractor? You gave me a figure of $4,000 and you mentioned $5,000.

Mr. BRACKEN. There is $5,000 in this memorandum.

The CHAIRMAN. That is to run the office. That is separate and apart from the guards?

Mr. BRACKEN. That is right.

The CHAIRMAN. That is the office at $5,000 a month or at the rate of $60,000 a year to run the office. You were just out at the Baker West site, were you not?

Mr. BRACKEN. That is correct.

The CHAIRMAN. Could you sort of explain this $5,000 a month office to us, who is there and what costs $5,000? How large an office is it, and how large a staff is being kept on?

Mr. BRACKEN. I, of course, didn't check the detail as to the salary and the number of people there.

The CHAIRMAN. Were you in the office? Did you look around and get some ideas?

Mr. BRACKEN. Yes, I did. I would say there are probably three stenographers, there is an overall manager, as they term him.

The CHAIRMAN. An office manager?

Mr. BRACKEN. An office manager. There are two other men who, I suppose, would be called accountants, I would assume.

The CHAIRMAN. Two accountants?

Mr. BRACKEN. I would say accountants.

The CHAIRMAN. Do you know what they are accounting right now?

Mr. BRACKEN. What are they accounting?

The CHAIRMAN. Yes.

Mr. BRACKEN. For instance, there is a little over $200,000 worth of contracts with local people for sand, gravel, and things of that sort. They are working on that type of thing.

The CHAIRMAN. When this bill is sent to the IIA, who passes on it before the check is issued to the contractor?

Mr. BRACKEN. There is a representative of the Government out there who is called the certifying officer.

The CHAIRMAN. What is his name?

Mr. BRACKEN. His name skips me for the moment.

The CHAIRMAN. Will you get that for us?

Mr. BRACKEN. I certainly will.

The CHAIRMAN. In other words, you say there is a man on the site who decides how much should be paid to the contractor per month?

Mr. BRACKEN. He is at the Portland office.

The CHAIRMAN. There is a man representing IIA in the Portland office, working full time, and he determines how much should be paid the contractor?

Mr. BRACKEN. That is correct.

The CHAIRMAN. Now, we have the figure of $5,000 for the Portland office, $10,000 profit, and you set up a $1,500 for the contractor's New York office.

Mr. BRACKEN. Field payroll $6,222.

The CHAIRMAN. Those are the guards you refer to?

Mr. BRACKEN. Yes.

The CHAIRMAN. $6,200?

Mr. BRACKEN. That is right.

The CHAIRMAN. That is right.

The CHAIRMAN. That is $22,500. Give us all the figures.

Mr. BRACKEN. It is estimated that during March there will be $7,200 paid on equipment rental.

The CHAIRMAN. $7,200 on equipment; very well. How much more will be paid?

Mr. BRACKEN. The only other item is an item which reflects obligations already incurred with local contractors, and that would be $117,000. For instance, they have already contracted for sand and for gravel and for other items of equipment.

The CHAIRMAN. Before you said it was at the rate of $25,000 a month. We now have added up figures that run $29,900. Now give us any additional monthly payments.

Mr. BRACKEN. I know of no other additional monthly payments.

The CHAIRMAN. How about the $117,000 for sand and gravel that has not been delivered. You say we will have to pay for that, too?

Mr. BRACKEN. I was informed that had already been delivered to the site.

The CHAIRMAN. In other words, that will have to be paid for?

Mr. BRACKEN. That is right.

The CHAIRMAN. Have they been delivering any since Dr. Compton ordered the project discontinued?

Mr. BRACKEN. No. The contractor's representative told me that they would assume no further obligations of any sort with the subcontractors.

The CHAIRMAN. Is it correct that your legal officer, when he heard that they were paying 8½ percent per month on all the equipment, that the equipment would belong to the contractor when it was fully paid for, at the end of a year, objected to that and urged that the contract be immediately terminated?

(There was no response.)

The CHAIRMAN. Do you know that to be a fact? If you do not, tell us.

Mr. BRACKEN. I do not know the answer to that. I would have to check it.

The CHAIRMAN. Have you discussed that with the legal officer?

Mr. BRACKEN. You are speaking of our legal officer in New York? I am the legal officer in Washington. There is a legal officer in New York.

The CHAIRMAN. Let us take any legal officer at all, New York or Washington. In other words, has this been a subject of discussion among the legal officers? You are one of them. Do you follow me, Mr. Bracken?

You have a contract which pays 8½ percent per month on equipment. We have been told that some of the equipment is purchased at least 10 months before it is used, which would mean that he had

been paid 85 percent of the cost before he turned a wheel of some of that equipment. Now we find that you are paying $7,200 a month rental on equipment, which means that it will be fully paid for whether he has to use it or not. He will own the equipment. We have been told under oath that about 3 percent would be a reasonable rental fee. My question is: Did you and the other legal officers discuss what on its face would appear to be an unusual contract? Did you discuss it or did you not?

Mr. BRACKEN. Yes, it has been discussed.

The CHAIRMAN. Was it generally agreed this was an improper contract?

Mr. BRACKEN. No, it was not.

The CHAIRMAN. Do you think it is a proper contract insofar as the 8½ percent is concerned?

Mr. BRACKEN. As to the amount of the fee to be paid, there are differences of opinion.

The CHAIRMAN. Will you give us the name of anyone who said 8½ percent was a reasonable figure? I have reference to anyone on your legal staff.

Mr. BRACKEN. No one on our legal staff has indicated that 8½ percent is a reasonable figure.

The CHAIRMAN. Then do I understand that all of you on the legal staff felt that 8½ percent was too high?

Mr. BRACKEN. I felt it was too high.

The CHAIRMAN. You do not know anyone who thought it was a reasonable fee?

Mr. BRACKEN. Except the contractor.

The CHAIRMAN. And who is the man you say was originally responsible for this figure of 8½ percent?

Mr. BRACKEN. To my knowledge the 8½ percent was agreed to by the then acting contracting officer in New York, Mr. Myers.

The CHAIRMAN. Just one further question. You are paying the contractor each month on the profit which he would have made, $150,000. We have had testimony—if I am incorrect in restating the testimony, Mr. Counsel, will you correct me—that the contractor was not too financially responsible. The question is: If you pay him his profit of $150,000, if he is not financially responsible, how can you insure performance of the contract in case you should proceed with the Baker West project where it now is?

Mr. BRACKEN. I have heard nothing to the effect that he is financially irresponsible.

The CHAIRMAN. Have you seen his financial statement?

Mr. BRACKEN. I have not seen it. A financial statement, I am informed, was made available by him for scrutiny by the contracting officer in New York.

Senator MUNDT. As legal officer, have you required a performance bond under the contract from the contractor?

Mr. BRACKEN. Not under a cost-plus-fixed-fee contract.

Senator MUNDT. No performance bond?

Mr. BRACKEN. No, because we can immediately terminate that contract at any time.

Senator MUNDT. But if you paid him his profit in advance, he might welcome such a termination.

Mr. BRACKEN. That would be true. But we don't pay him his profit in advance. The contract states that after he has done a certain amount of work, then he is to be paid so much. After he has completed such and such, he is to be paid so much. To date according to my figures he has been paid about $40,000 out of that total fixed fee.

The CHAIRMAN. Counsel tells me that Mr. Myers refused to show the contracting officer the financial statement of the contractor, is that correct, Mr. Counsel?

Mr. COHN. That was his sworn testimony, I believe, Mr. Chairman.

The CHAIRMAN. You will therefore be requested at this time to obtain the financial statement which Mr. Myers had at the time the contract was made and submit that to the committee. I assume there is nothing classified about that financial statement.

Mr. BRACKEN. Not to my knowledge.

Senator MUNDT. Will you also get the correspondence over the signature of Mr. Myers, by which he agreed to this 8½ percent figure. You said that was done by correspondence?

Mr. BRACKEN. Yes.

Senator MUNDT. You can get that correspondence and bring it to the committee?

Mr. BRACKEN. Yes.

The CHAIRMAN. Therefore, you will furnish the committee with both items.

Mr. BRACKEN. Yes, sir.

Senator MCCLELLAN. Mr. Chairman, is that contract on file with the committee?

The CHAIRMAN. Will you also produce the contract?

Mr. BRACKEN. Yes, sir.

Senator MCCLELLAN. I think that should be done. As I understand from your testimony, the contract, as written, I assume, could be terminated without there being any continuing obligation on the part of the Government to the contractor for his anticipated profit had the contract been completed?

Mr. BRACKEN. That is right.

Senator MCCLELLAN. Are you sure that you have such a provision in the contract? It is a bit unusual. A breach of contract on the part of one possibly entitles the other contracting party to receive the anticipated profit that he would have made had the contract been performed. I do not know. As I understand you, you are saying that there would be no further liability on the part of the Government other than to pay him his anticipated profit up to date, but not his future profit?

Mr. BRACKEN. That is correct.

Senator MCCLELLAN. If that is true, then, it should be easier and less loss would be sustained if you proceeded to terminate the contract rather than to keep it in a continued state of suspension with these payments accruing all the time. Therefore, the more urgent the necessity for a determination one way or the other promptly.

Mr. BRACKEN. I agree, Senator.

The CHAIRMAN. Will you promptly notify the new head of the IIA of this situation?

Mr. BRACKEN. I will be very glad to.

The CHAIRMAN. If you can find out why he has not been notified before this time. You see, this committee cannot supervise your work. That is not our job. We assume that when there is sworn testimony that a certain thing has occurred that has actually occurred. We assume that the staff over in IIA will try to cooperate with the new head, Dr. Johnson. We have found that no one has told him a thing about this. He may be interested in knowing why. I assume he will be. So we would like to request you at this time to promptly get in touch with Dr. Johnson and tell him about this situation. Not tomorrow or the next day, but today, if you will. Will you do that?

Mr. BRACKEN. I will be very glad to.

The CHAIRMAN. Thank you very much.

Mr. BRACKEN. Thank you, sir.

The CHAIRMAN. Mr. Pratt, will you take the witness stand. Will you stand up and raise your right hand?

In this matter in hearing before the committee, do you swear that you will tell the truth, the whole truth, and nothing but the truth, so help you God?

TESTIMONY OF HARADEN PRATT, ADVISER TO THE PRESIDENT ON TELECOMMUNICATIONS

Mr. PRATT. I do.

The CHAIRMAN. You are the President's adviser?

Mr. PRATT. On telecommunications.

The CHAIRMAN. Proceed, counsel.

Mr. COHN. Mr. Pratt, will you tell us a little bit about your background? I think you have told us you are President Eisenhower's adviser on telecommunication matters at the present time. Will you give us a little of your own background?

Mr. PRATT. I started as an amateur in radio communications in 1905 and as a wireless operator on ships starting in 1910. I graduated as an engineer from the University of California in 1914. Since that time I have held various positions. I was first with the Marconi Co of America building radio stations. I was for 5 years an expert radio aide in the Navy Department, which terminated at the end of 1919. I had construction and maintenance responsibility for their high-powered radio stations. That was a worldwide system. Subsequently I was in business myself. I built a radio system for Western Air Express, an early airmail contractor. In 1927 and 1928 I was in the Department of Commerce, in charge of the development of radio aids for air navigation, working in the Bureau of Standards. Up to the year before last I was with Mackay Radio & Telegraph Co., and the American Cable & Radio Corp., as vice president and chief engineer, and constructed and maintained a worldwide communication system of telegraph services, a public system. In October of the year before last, I had the appointment to the post I now hold.

Mr. COHN. And at the present time you are the telecommunications adviser to the President of the United States; is that correct?

Mr. PRATT. That is correct.

Mr. COHN. As such do you have any concern with frequency allocations?

Mr. PRATT. Yes, that is my responsibility under an Executive order.

Mr. COHN. That is under Executive order. And does that responsibility extend to wartime planning of frequency allocations?

Mr. PRATT. It does. Those are functions that are vested in the President under the Communications Act of 1934, and it is my duty to carry out what is to be done under those functions.

Mr. COHN. Now, as part of the carrying out of those functions, has it become necessary for you to consult with the engineering department of the International Information Administration and the Voice of America to determine what frequency allocations they would require in connection with various of these important transmitting projects which they were erecting throughout this country?

Mr. PRATT. It has.

Mr. COHN. What has your experience been?

Mr. PRATT. Generally I have found them not very well prepared to state what their requirements are, much less so than any other department of government. I would say from my point of view that there has been an appearance of considerable incompetency in that branch.

Mr. COHN. You say there has been an appearance of considerable incompetency. Let me see if we can develop that.

The CHAIRMAN. Mr. Counsel, will you make clear he is referring not to the Voice but to the International Information program, which is superior to the Voice.

Mr. COHN. That is right, Mr. Chairman. I assume your initial dealings were with the International Information Administration in Washington, is that correct?

Mr. PRATT. Generally. But we were talking about people that deal with and have the responsibility for implementing the program from the standpoint of frequencies.

The CHAIRMAN. May I say, Mr. Pratt, the reason I brought that up is that there has been coisiderable misunderstanding on the part of the public as to just when we are referring to the Voice of America, which is one of the five branches of the International Information Administration. The Voice has been getting the blame for all of the incompetence in the International Information program, that is, for the Library Section, for the Press Section, and for the Movie Section, and for that reason I want to make clear you were referring in effect to the superior of the Voice rather than to the Voice of America.

Mr. PRATT. Yes. Although with respect to these other departments, Senator, I have no knowledge of, and they don't deal with radio stations, as I understand it.

Mr. COHN. Now, let me ask you this: Did you go to the engineering department of IIA to determine what frequencies they would require for, say, projects like Baker West and Baker East, which you have heard here this morning?

Mr. PRATT. Yes; questions of that sort were posed by me to them.

Mr. COHN. When you went to them would you find that before they went ahead and spent millions of dollars on these projects that they had clearly in mind what their frequency requirements would be?

Mr. PRATT. If they did, they did not impart that to me.

Mr. COHN. Did you try to get them to impart it to you?

Mr. PRATT. Yes, I did.

Mr. COHN. And you were not too successful?

Mr. PRATT. That is right.

The CHAIRMAN. In other words, putting it simply, you were of the impression that they were going to proceed to build the radio sta-

tions without knowledge of what their frequency requirements would be, or what frequencies were available to them?

Mr. PRATT. Let me elaborate, Mr. Chairman. I would not expect them to state specifically what frequencies they would want to use. That would be very difficult for any man to do too far in advance. But I didn't seem to find very much of an answer as to the direction in which they would proceed to satisfy such requirements.

Mr. COHN. And you were unable to get an answer to that?

Mr. PRATT. That is right.

Mr. COHN. And, of course, you needed an answer to that in making your overall plans; is that correct?

Mr. PRATT. It would eventually be required, yes, within the scheme of things, naturally.

Mr. COHN. Did you find this difficulty on more than one occasion?

Mr. PRATT. Yes.

Mr. COHN. Let me ask you this: Did you ever have any occasion, Mr. Pratt, to see any of this part of the curtain antenna program of the International Information Administration for the Voice of America?

Mr. PRATT. Only in a very general way. I saw one of them that had been partly finished. I saw the plans in Mr. Herrick's office lying on the table. I gave them a quick glance. I have a general idea of what sort of thing it is.

Mr. COHN. Did you see one of these projects in a partial state of completion?

Mr. PRATT. Yes.

Mr. COHN. Based on your background and experience, what was the impression you gained as to the feasibility of this type of antenna?

Mr. PRATT. I thought offhand it was a pretty expensive sort of instrumentality for the job it was supposed to do, as I saw it. If in private practice I had attempted to build a structure like that, then I think my company would have become bankrupt very shortly.

Senator POTTER. So is this company.

Mr. COHN. Mr. Pratt, I neglected to ask you what your first name is.

Mr. PRATT. Haraden, spelled H-a-r-a-d-e-n.

Mr. COHN. I have no further questions.

The CHAIRMAN. I have just one question. I have been reading about these disgruntled employees who have been giving us information. You are not a disgruntled employee; are you?

Mr. PRATT. Not whatsoever. Sometimes I get a little impatient, Senator, at the slow-moving Government machinery.

The CHAIRMAN. I want to thank you very much.

Senator MCCLELLAN. What stations have you been talking about? You have not been talking about Baker West and Baker East; have you?

Mr. PRATT. Yes.

Senator MCCLELLAN. Those are the ones you are talking about?

Mr. PRATT. I am talking about all of the stations that they have responsibility for. Some of them I think are privately owned under contract and others under construction by the Government.

Senator MCCLELLAN. But Baker East and Baker West were included in your remarks?

Mr. PRATT. Yes.

Senator McCLELLAN. Specifically about Baker West, have you examined that plant thoroughly?

Mr. PRATT. No, sir

Senator McCLELLAN. Do you have any comment or views regarding the location presently as a suitable location?

Mr. PRATT. As a man in business for many years I often wondered why they put the station there, because I wouldn't think a man that was informed in this particular field would deliberately select a location of that sort.

Senator McCLELLAN. In your judgment, if he was informed in this field and located it there, you would not attribute such a decision, then, to stupidity; would you?

Mr. PRATT. It all depends on what the objectives were. That might have had something to do with it. If the objective had been fairly good reliable communication for the least outlay, I certainly as an engineer would not select that sort of a place. I am not speaking of the particular real estate but the location with respect to the country.

Senator McCLELLAN. You are not talking about the local location, but the general area?

Mr. PRATT. That is right.

The CHAIRMAN. Your statement was that you would not select that?

Mr. PRATT. No.

Senator McCLELLAN. Would you tell us why, just generally, and not in detail.

Mr. PRATT. The general picture is that international communication by radio is difficult from any part of the North American Continent due to the general proximity of the North Magnetic Pole which introduces disturbances that interfere with the propagation of radio waves. Therefore, northern sections in North America should be avoided as far as possible. As a matter of fact, there is not any place in the United States that one might call ideal. It is just the way the geography works out. But to select spots in the northern area is technically to be avoided.

Now, communication companies working out of the east coast have selected the New York area. It so happens that perhaps if you went down to the tip of Florida you might get better propagation conditions, but costs enter into it. Private enterprise could not operate that far away from New York. So you make a business compromise and you put up with whatever slight disadvantage the northern location has for other benefits.

Now, it is considerations of that sort that may have entered into the selection of these sites by the Voice. I would not be able to know because it has not been my business to investigate those aspects.

Senator McCLELLAN. The thing at issue before the committee, as I see it, is that here is a project defined as Baker West, that has been approved and contracted for and construction has started. Now information comes to us, apparently from the highest source and most reliable sources, that no one who really knew his business would have selected that location which would involve not only much greater initial cost to construct but far greater expense to operate and with less satisfactory results than had the station been located at a more southern site. Is that your view about it?

Mr. PRATT. Yes. I don't know that I could agree with the magnitude of the differences that I have seen as a result of your hearings and in the press, but there is a difference and a definite one.

Senator MCCLELLAN. That is all. I want to be fair about it. If we started a project up there and contracted for it, one that when finished is not going to give the service that is required in this program and is going to be tremendously expensive, I think the time to correct it is now before we have expended any more money. That is what we are trying to find out.

Mr. PRATT. I could make this remark, Senator. I would expect as a businessman that anyone who selected a site like that for me would have to give very good reasons in order to convince me of it.

Senator MCCLELLAN. Do you know of any good reason that can be given?

Mr. PRATT. I don't know what the purposes of the Voice might have been in selecting that particular site. I don't know what the facts are.

The CHAIRMAN. Assume the purpose was to get the best signal to a distant target area; would you then say that it was a mistake? Let me ask you one question before you answer that.

Am I correct in this: That this magnetic storm area or the auroral absorption belt, call it what you may, is located a considerable distance above the earth and it would not seriously affect a transmitter which was transmitting to a near area, but that magnetic storm area only becomes a serious impeding factor when you are trying to hit a target some distance away? Is that roughly correct?

Mr. PRATT. I believe you have overstated it a little bit, but I think roughly that would be correct; yes.

The CHAIRMAN. Then if the purpose of this transmitter was to hit a target area a great distance away can you think of any reason why it should be located in that particular section of the magnetic storm area?

Mr. PRATT. No. My answer would be "No," generally. But I would like to point out that these disturbed conditions that arise by reason of the magnetic storms only occur occasionally. Sometimes they occur frequently and then you will have a long period of time when you may not have any communications. During those quiet conditions, a northerly location would be as good as any other. If it was closer to the target area which might be the case in this instance, you might during those quiet periods have a superior result, although I think measurably it would not be too significant. For a person that is trying to maintain a communication system, a public service one, one that offers a telegraph service to the public, he would want to keep away from a location which would interrupt his service too much.

The CHAIRMAN. I have one further question. I am not sure if you are equipped to answer this question or not, Mr. Pratt. I will ask it, and if you feel this should be asked of some engineer who is more familiar with the project, we will ask it of Mr. McKesson or one of the other engineers.

I have the Bureau of Standards report, and it indicates, as you say, that at times you could get good transmission from this area, but a very small period of time apparently. They say, for example, "General conclusions can be drawn from the results so far obtained. To assure delivery of a satisfactory signal at a given time of the day

on at least 10 percent of the days, a transmitter at Seattle would require but 5 times as much power as a transmitter at San Francisco or San Diego. To assure a signal for a given time of the day on at least 50 percent of the days, a transmitter at Seattle would require about 15 times as much power as a transmitter at San Francisco or San Diego. To deliver a satisfactory signal on at least 90 percent of the days, at a given time of the day, a transmitter located at Seattle would require about 50 times the power of a transmitter at San Francisco or at San Diego. The above conclusions are supported by the attached exhibits, exhibits 2 to 10," and so forth, and so forth.

Could you give us any estimate of the additional annual cost because of the tremendously greater power requirement at Seattle than farther south? We have had testimony that the original cost would be tremendously higher than farther south.

Now my question is: Could you give us any estimate of the additional cost after the facilities would have been completed at Seattle because of the additional power requirements, or could you do that?

Mr. PRATT. I could not do it quantitatively, but it would be considerable. However, the extra cost might not be justified because the benefit that you would get from the extra power might not be commensurate. It all depends on how you want to appraise your objective. If you want to get a program down over on the other side, say 23 hours out of 24, and you don't want to sacrifice another half hour on certain days, and you want to pay a big price to get that very marginal additional result, yes, then you would be involved not only in large capital costs but correspondingly increased operating costs.

However, I think that there are many factors that have to be weighed in a thing of that sort. You always can trade costs against compromised results.

The CHAIRMAN. I do not think you got my question. The Bureau of Standards says that if you locate a station in San Diego or San Francisco, that it will take only one-fiftieth as much power to get the same results at 90 percent of the days, at certain times of the day, than a station up in Seattle. I am not asking you whether you think you should shut down the station in Seattle rather than to spend the extra money on the power. The question is: Can you give us an estimate of the comparative costs, assuming you are operating on the same time of the day, hitting the same target area? If you cannot give us that—and I can easily see how you could not—we will not ask you. If you can give us some estimate, good.

Mr. PRATT. If I assume those figures, I would have to say if the difference is 50 times your electric power bill will be about one-fiftieth at the other location, your upkeep of your equipment will be less, there being less equipment, your vacuum tubes would be correspondingly less, not necessarily one-fiftieth, and undoubtedly there would be fewer people necessary to maintain it. The cost of maintaining the buildings would be correspondingly reduced because they would not need to be so large and all other things in proportion.

Senator MCCLELLAN. I have just one question. As I understood you, you qualified your answer here by saying that if you accept those figures, the figures of the Bureau of Standards. I do not know whether you are prepared to accept them or to reject them.

Mr. PRATT. They are a little bit surprising to me, Senator. I have high regard for the Bureau of Standards organization; I know some-

thing about it. I would like to see the foundation upon which their statements are based before I accept them.

Senator McCLELLAN. You agree with the general position taken?

Mr. PRATT. Absolutely.

Senator McCLELLAN. But those figures surprise you somewhat?

Mr. PRATT. That is right.

Senator McCLELLAN. And you would want to check those personally before you finally accepted them?

Mr. PRATT. That is right.

Senator McCLELLAN. But as a general proposition it will cost more and it will be less satisfactory, and so forth; you agree with that?

Mr. PRATT. Yes.

The CHAIRMAN. May I say, Mr. Pratt, that we have the report from the Bureau of Standards and attached to it are 28 exhibits. I am sure they would mean a lot more to you, a graduate engineer, than members of the committee. We will be glad to give you a copy of this if you care to have it.

Mr. PRATT. I would be very glad to have it.

The CHAIRMAN. Thank you very much for taking time off from a very busy day.

Mr. PRATT. You are very welcome, sir.

The CHAIRMAN. It is 12 o'clock. We have some very important witnesses we would like to put on. We will recess now and reconvene at 1:30 p. m.

(Whereupon, at 12 o'clock noon, a recess was taken until 1:30 p. m., this day.)

AFTERNOON SESSION

The CHAIRMAN. The commitee will come to order.

Will you stand up and raise your right hand, sir? In this matter now in hearing before the committee, do you solemnly swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. GILLETT. I do.

The CHAIRMAN. Proceed, Mr. Counsel.

Mr. COHN. Give us your full name, please.

TESTIMONY OF GLENN D. GILLETT, CONSULTING RADIO ENGINEER, WASHINGTON, D. C.

Mr. GILLETT. My name is Glenn D. Gillett.

Mr. COHN. How do you spell your last name, Mr. Gillett?

Mr. GILLETT. G-i-l-l-e-t-t.

Mr. COHN. Now, Mr. Gillett, what is your occupation?

Mr. GILLETT. I am a consulting radio engineer.

Mr. COHN. And would you tell us something about your educational background?

Mr. GILLETT. I am a graduate of Harvard University with honors. I graduated from Harvard Engineering School magna cum laude. I was an engineer for 10 years with the American Telephone & Telegraph System in the department of development and research, which is the headquarters staff organization of the A. T. & T. In that work, I was in charge of the development of techniques and methods of field-strength measurement and was responsible for the inauguration or conception of the use of field-strength contours to depict the results

of field-strength surveys. I made the first field-strength surveys ever made for a broadcast station.

Mr. COHN. Were you ever an employee of the information program?

Mr. GILLETT. I have never been employed by the Voice of America or the information program.

Mr. COHN. You have been employed by the United States?

Mr. GILLETT. I have been employed by the United States Forces in Austria as a consultant, and by the ECA as senior electronic consultant in Europe.

Mr. COHN. But you have never been employed by the information program in any capacity?

Mr. GILLETT. That is right.

The CHAIRMAN. I may say this man would not qualify for a job with the Information Administration, because he is a graduate engineer.

Mr. COHN. Now, would you continue, Mr. Gillett, and tell us a little more about your background?

Mr. GILLETT. I also, while with the Bell System, had responsibility for an extended program of research on common frequency broadcasting. I am the author of several papers before the Institute of Radio Engineers on basic facets of radio transmission and broadcast field-strength measurement. Since 1932, I have been head of my own firm of consulting radio engineers in Washington. I have practiced before the FCC in behalf of my various clients for 20 years, and have done considerable fundamental research on the development of high-efficiency antennas. My firm has designed 5 out of 6 of the highest antennas in the world today for use in broadcasting.

Mr. COHN. Mr. Gillett, you mentioned Austria; that you were a consultant to the Armed Forces in Austria. When was that?

Mr. GILLETT. In April 1950, I was asked to go on an emergency basis immediately to Austria to serve as a consultant to the commanding general on broadcast problems there.

Mr. COHN. And you proceeded to Austria; correct?

Mr. GILLETT. I arrived 6 days after they asked me to leave.

Mr. COHN. Now, did you, following your arrival in Austria, participate in the planning of some radio stations to be used by the Armed Forces in Austria?

Mr. GILLETT. The Armed Forces were desirous of employing to the maximum possible extent the broadcasting facilities which they were using for the German language, which is the native language of Austria, to disseminate information to Austria and to the territories to the east of Austria.

After a discussion with Commanding General Keys, who was also the High Commissioner for the United States——

Mr. COHN. Would you spell his name?

Mr. GILLETT. K-e-y-s, I believe it is. [Continuing:] These objectives were set up by the United States Forces in Austria: first, that the maximum possible service should be given to northern Austria, including Vienna; second, that the maximum service to the territory to the eastward should be given day and night; third, that the installations built by the United States Forces in Austria should stand as a monument to what a free democracy could do for its wards.

Mr. COHN. Now, in connection with that, were three stations planned?

Mr. GILLETT. Three stations were planned.

Mr. COHN. Which was to be the main one of the three?

Mr. GILLETT. Let me put it the other way. The one in Salzburg was hemmed in by mountains so that there was no great need for high power in Salzburg. So, we took the frequency there with moderate power. Then at Linz we got a good frequency by swapping with the Armed Forces' network, so that with high power we could cover all of Austria and put a second service into Vienna in case the Russians should enter the Vienna transmitter. All of this was designed to backstop the Vienna transmitter, which was on a frequency which had to reduce the radiation to the westward to protect the station in Libson with which we were sharing the frequency. This meant that all the radiation had to go to the eastward, to enable us, by employing all we knew technically about high-efficiency antennas, to produce an antenna system that radiated the equivalent of 500 kilowatts to the eastward, with 100 kilowatts input to the antenna system.

Mr. COHN. And the principal station was to be the one at Vienna. Is that right?

Mr. GILLETT. It was the key of the arch, to which everything was built.

Mr. COHN. It was the key of the arch. All right. Now, what was to be the height of the antenna tower for that station?

Mr. GILLETT. Originally we had planned to use 1,000 feet; but later we found, from some development work that we did, that we could use a tower 900 feet high, using the top guys to load the antenna, and get the same results at a cost of about 20 percent less.

Mr. COHN. I see. So, the height was to be 900 feet. Is that right?

Mr. GILLETT. It was to be 900 feet.

Mr. COHN. Now, using a 900-foot antenna, would this station have been a powerful one?

Mr. GILLETT. This would have rendered the best service available to all of Hungary within the Danubian Basin day and night. It would also have rendered the most powerful signal, and the signal most free from distortion and fading, to most of Poland, all of Hungary, and much of southern European Russia; in fact, it would have rendered the strongest signal available from any station in western free Europe, and for much of the rural area a stronger signal than was available from any Russian station.

Mr. COHN. What would have been the beneficial effect of having such a station insofar as our program of countering Communist propaganda and bringing the truth about the free world behind the Iron Curtain and to countries such as Poland?

The CHAIRMAN. May I interrupt before you answer that?

Mr. Leahy, there is a man by the name of Tom Downs, D-o-w-n-s, apparently in the press section of the information program. I do not know if he is located in Washington or New York. If he is in Washington, I wonder if you could arrange to have him in here. I would like to have an executive session as soon as we are through here. If he is in New York, I would like to have him ordered down here instantly if we could.

Pardon me.

Mr. GILLETT. The object of this was to enable the United States Forces in Austria, which was the operator of the Information Service in the propaganda agency in Austria at the time for the United States, or Information Dissemination Service would be better, to deliver

the facts as to what the United States was doing and was trying to do in the way of world peace and the salvage of Europe from the economic disaster of the last war to the peoples living in the country to the east, which is, of course, entirely Soviet controlled. This was the farthest east outpost that the West had in the Iron Curtain countries.

Mr. COHN. Now, let me ask you this: Did you work on plans for the setting up of this 900-foot tower?

Mr. GILLETT. We made surveys to determine the areas of best conductivity. The best site was, of course, along the alluvial plain near the river on the south side of town. However, this was too close to the Swechat Airport and involved certain other projects, emergency projects, of the Army; so that the next best site was on a large farm operated by the Steinhof, which was the mental hospital.

Mr. COHN. The Steinhof?

Mr. GILLETT. The Steinhof, which is the mental hospital, where there was room to put up a reflector, the reflector necessary to protect Portugal. Measurements showed it was not too much worse than the vegetable patch and was the best available.

Mr. COHN. And was that site selected?

Mr. GILLETT. The site was selected. Request was made to the Austrians for requisition, which was done. Before it was requisitioned, our plans were carried by Colonel Hixon, who was the chief of staff under General Keys, to the High Commissioner for Britain and for France resident in Vienna, and their written approval of the program, including approval for a thousand-foot mast at this site, was obtained, in full knowledge of any potential air hazard that would have existed. We had worked in close conjunction with our own Air Force authorities in Austria at Vienna and had determined that this site, since it is surrounded by higher hills to the westward and north, with woods on top of them, would not cause any substantial or objectionable hazard to air navigation for planes coming into Swechat Airport, which was some 14.5 miles to the south.

The CHAIRMAN. How do you spell Swechat?

Mr. GILLETT. I think it is S-w-e-c-h-a-t. It is the commercial airport for Vienna in the plains to the south of Vienna.

The CHAIRMAN. So you determined, because of the height of the hills around the proposed location, that this 900-foot broadcasting tower would cause no additional hazard insofar as Swechat Airport was concerned?

Mr. GILLETT. No appreciable hazard. It would have been about 200-odd feet above the height of the trees on the hills surrounding it for 1 mile. It was well below the 1-to-40 glide path required by the CAA in this country for protection of commercial airports.

Mr. COHN. And the airport was some 14.5 miles away?

Mr. GILLETT. Some 14.5 miles away.

The CHAIRMAN. In any event, before the Army decided to build this 900-foot tower, you did take into consideration Swechat Airport?

Mr. GILLETT. It was taken up with the British air attachés office in Vienna. I was present at discussions with them.

Mr. COHN. And you say written consent was obtained?

Mr. GILLETT. And written consent was subsequently obtained from the highest British Representative in Austria, who was the commis-

sioner for the English Government in Vienna, as well as for the French.

Mr. COHN. Very good; and then plans went ahead to erect this tower or rather to place this 900-foot tower there. Is that right?

Mr. GILLETT. Immediately plans were made. Money was put together by the Army forces. Telecommunications conferences were held several times at the headquarters in the Pentagon, at which also representatives of the State Department were present, and I was present at the telecoms in Vienna, and the whole program, including the height of towers, the location, the objectives, was discussed and was approved, not only by the authorities in Austria but by the Army authories in Washington and by the State Department authorities in Washington.

Mr. COHN. Was the 900-foot tower actually purchased?

Mr. GILLETT. On that approval, orders were placed for the purchase of the two 100-kilowatt transmitters required, which were gotten very economically because we bought 50-kilowatt transmitters that were provided with a spare set of tubes and arranged to have them bridged to give us a hundred kilowatts.

The CHAIRMAN. The question was: Was the 900-foot tower purchased?

Mr. GILLETT. I am sorry. Let me continue. The towers were purchased for Salzburg, the 3 for Linz, and the 2 for Vienna.

Mr. COHN. Including the 900-foot tower?

Mr. GILLETT. Including the 900-foot tower.

Mr. COHN. Do you know the approximate cost of the 900-foot tower, just the approximate cost?

Mr. GILLETT. It is about $125,000.

Mr. COHN. And that was actually purchased?

Mr. GILLETT. And it was delivered in Austria?

Mr. COHN. And it was delivered. Is that right?

Mr. GILLETT. Yes.

Mr. COHN. Now, when did you leave——

The CHAIRMAN. Mr. Counsel, will you find out when it was delivered?

Mr. COHN. About when was it delivered?

Mr. GILLETT. In the summer of 1951.

The CHAIRMAN. Will you find out, Mr. Counsel, where it is now?

Mr. COHN. Do you know where that tower is now?

Mr. GILLETT. I was told that it was in the storage yard of the Voice of America at Munich. I have reason to believe the Voice of America is planning to use it at one of their own transmitters in Munich.

Mr. COHN. Do you mean to say that this 900-foot tower which was purchased for this Vienna station, which would have made a powerful station reaching into Iron Curtain countries which you have described, was never used?

Mr. GILLETT. It was not used in Vienna and it was not used in Austria.

Mr. COHN. When did you discover that it had not been used?

Mr. GILLETT. Well, I had heard rumors and discussions with Mr. Roberts in the spring of 1951 that they planned to cut down the size of the installation in Vienna. Then I was told, in April, by Mr. Roberts who is the head of the Austrian public affairs desk in the State Department, that the original construction was going to be built—or

that the construction in Vienna and elsewhere in Austria was going to be built—exactly as originally planned.

After I had gone to Europe for the ECA, one of the engineers working on the adjustment of antennas came through and stopped to see me in Paris, and by chance mentioned that the heights had been cut to one 450- and one 400-foot tower.

The CHAIRMAN. Let me interrupt. When this project was originally planned, the Army was in charge. Right?

Mr. GILLETT. That is right.

The CHAIRMAN. And at what time was that project blanketed into the State Department, if you know?

Mr. GILLETT. In the fall of 1951, essentially after all equipment had been bought and all transmitter buildings and sites had been selected and the buildings completed.

The CHAIRMAN. In other words, after all plans had been made, after you had made arrangements with the British and had written consent from them as to the height of the tower and had made arrangements with the French, after the tower and everything had been purchased, then the State Department took over the project?

Mr. GILLETT. Yes.

The CHAIRMAN. All right.

Mr. GILLETT. And Mr. Commissioner Donnelly, who took over for the State Department, told me in 1951 at a conference in Vienna that he had been sent to Vienna with the distinct commitment that the State Department had agreed to construct the entire red-white-red network exactly as originally planned.

The CHAIRMAN. Then what happened? Was it constructed? If, not, what was constructed?

Mr. GILLETT. The main change was that they did not use the 900-foot tower. The explanation that was given to me was that they didn't know how to cut it down to 650 feet. I found after I got to Austria in November of 1951 that the CAA and the other authorities had offered and volunteered to approve 650 feet without any objection, and instead, because they didn't know how to shorten the tower from 900 feet to 650 feet, they junked that tower and used a 450-foot tower we bought for the reflector, and swiped the 400-foot tower we bought for Salzburg on a higher frequency to put up what might be called an emasculated station.

The CHAIRMAN. Could the 900-foot tower be cut down to 650?

Mr. GILLETT. Very easily. It might have taken 1 day to cable the manufacturer to see what sections to leave out. It is built in 20-foot sections, you understand, and goes together just like a fish pole.

The CHAIRMAN. And the reason given by the State Department for not having used this tower, it having been purchased, was that they did not know how to cut it down to 650 feet?

Mr. GILLETT. First the CAA had objected to the full height, and in a conference with Mr. Donnelly, Mr. Moffly, who was the head of the actual operations, was present also and admitted to the facts that I had already learned from the CAA, that he knew and had known from the beginning that the CAA would have approved the 650-foot tower. The engineers in Vienna gave the explanation that they didn't know how to cut down the tower, and they couldn't wait to find out. Of course, the station didn't go into operation for another year.

The CHAIRMAN. What was the effect of scrapping the idea of having a 900-foot tower and substituting a 450-foot tower?

Mr. GILLETT. First, day and night it reduced the total area that could be served by about 20 percent. Secondly, it reduced the signal within the area to all points within the area that were still served by 20 percent, which is equivalent to a reduction in the radiation efficiency of 35 percent. Thirdly, because the antenna originally designed had been especially designed to eliminate fading and quality distortion at night at long distances, that the nighttime service, especially in Hungary and within 600 miles of the transmitter would be largely if not totally destroyed for usefulness by what we call selective fading and quality distortion, in which, due to interference between sky waves, the signal is distorted to where a man sounds like he has a hot potato in his mouth and then goes falsetto, and the whole quality goes to pieces in a basket.

The CHAIRMAN. Then, in brief, your testimony is that the shifting of plans from a 900-foot tower, which the Army had planned to construct, to the 450-foot tower, which the State Department decided to put up, was that your broadcasting facilities were very, very seriously impaired, both as to area hit and the reception of the program.

Mr. GILLETT. The most serious impairment at night came in the area up to 600 miles, where we had a very strong signal that nobody could jam with any effectiveness, and where we could have delivered a high-quality service otherwise. The impairment in this area was up to 75 percent, I would estimate, of its usefulness. This latter figure is based on experience as well as data. The 20 percent is absolute test data which has been confirmed by the engineers adjusting the new antenna.

The CHAIRMAN. I understand you have prepared some maps to illustrate the effectiveness and the efficiency of the 900-foot tower planned by the Army as against the 450-foot tower constructed by State. Why do you not come right over there, if you will, sir. Will you speak a little louder now?

Mr. GILLETT. Here is Vienna [indicating]. This is the margin between western free Europe and Soviet-controlled countries. This is the zero point 5 millivolt, 50 percent nighttime sky-wave curve, which the FCC in this country defines as the good nighttime service limit of a station of this character. This is half that. And this is one-tenth, which in our judgment represents the limit to which this station could be used for the dissemination of intelligible and useful information to which the people would listen, especially on account of the steadiness of the signal.

The CHAIRMAN. Let me make an observation there, Mr. Gillett.

Mr. GILLETT. This is nighttime [indicating].

The CHAIRMAN. Your testimony in the record will have little meaning if you merely point to the circle on the map, unless you identify some of the cities along the route.

Mr. GILLETT. Well, this goes through the Sea of Azov and the Black Sea. The limit of nighttime high-grade service covers half of Turkey, goes more than halfway across Soviet Russia in Europe, and goes nearly to the Gulf of Finland.

The CHAIRMAN. Will you mention a few of the major Russian cities that would have been covered had you built the 900-foot tower?

Mr. GILLETT. It is just next to Moscow. I think I should emphasize that this signal is not so much useful in the cities as it is useful in the rural areas between the cities.

The CHAIRMAN. Will you explain that?

Mr. GILLETT. It is what we describe and the FCC describes as rural-service signal level, because the electrical noise in the cities is large enough that that signal has difficulty in getting through against the electrical noise, but it is a very adequate signal in the rural area, which is what this is, except in the immediate center of each city.

The CHAIRMAN. Now, your second line represents what?

Mr. GILLETT. A signal half that strong, which is still a good and useful service.

The CHAIRMAN. In other words, the people between line No. 1 and line No. 2 would receive the program if you had a 900-foot tower?

Mr. GILLETT. Yes; and not only that but most people would consider it excellent service, even though it would not be defined as top service.

The CHAIRMAN. And then your third line?

Mr. GILLETT. That goes up to almost the upper end of Finland and into the middle of the Caspian Sea and goes beyond European Russia in the center here. That is the limit of what I think would probably be defined as useful service to disseminate information if you wanted to listen to it, and not on an entertainment basis. It would only be interfered with in this area up here, because there is a small station in Finland operating on this frequency. But within a few miles of the Russian border, down over the rest of the area, it will render very high-grade service.

The CHAIRMAN. See if I understand your testimony. If you had a 900-foot station here at Vienna, you say you could get excellent coverage up to line No. 1, satisfactory coverage to line No. 2, and you would get fairly good reception up as far as line No. 3 on the map.

Mr. GILLETT. Useful reception.

The CHAIRMAN. Useful reception.

Mr. GILLETT. Yes.

The CHAIRMAN. Now, just for the record, will you describe the location of line No. 3?

Mr. GILLETT. Well, line No. 3 goes almost to the top of Finland, through the Gulf of Moray, I believe it is, goes well into the middle and past the middle of the Caspian Sea, almost to the Persian Gulf, and well into the Red Sea below the center of population in Egypt, including all of the major population centers of Asia Minor.

The CHAIRMAN. Roughly, what is the distance from the proposed station in Vienna to the end of this last circle?

Mr. GILLETT. Approximately 1,800 miles.

The CHAIRMAN. So that if this station had been built in Vienna as the Army had planned it, you would have had coverage all of Russia, practically, a coverage over a radius of 1,800 miles?

Mr. GILLETT. Yes. And in Asia Minor, and in here, it would have had the best signal available from any source.

The CHAIRMAN. And the cost of that tower was roughly what, again?

Mr. GILLETT. $125,000.

The CHAIRMAN. And the tower was actually bought and has never been used?

Mr. GILLETT. At least it has never been used in Austria.

The CHAIRMAN. Now, do you have a map showing the effectiveness of the 450-foot tower that was finally built?

Mr. GILLETT. I have shown as contour A the one-tenth, which is again the limit of useful service except in this area right here.

The CHAIRMAN. Excuse me. The lady was reminding me to mark this so that it would be identified.

Would you mark the first one as exhibit No. 54? We can perhaps have that photostated and made a part of the record. Will you do that, Ruth?

(The map referred to was marked "Exhibit No. 54," and will be found in the appendix facing p. 674.)

Mr. GILLETT. And this is exhibit No. 55. It is the same map, on which I have drawn the same zero point 1 millivolt contour and the same location.

(The map referred to was marked "Exhibit No. 55" and will be found in the appendix facing p. 674.)

Then I have drawn the one-tenth millivolt contour computed from what should have been the efficiency of the antenna as built. As a matter of fact, I computed that to have an R. M. S. or radiation efficiency of 2,200 millivolts. I was able to see the proof of performance measurements that were made by the engineer who made the final adjustment of this antenna system, and his measurements show 2,230 millivolts, a difference of only about a fraction of a percent.

The CHAIRMAN. Will you tell me what line No. 1 on here represents? Mark it for the record, if you will.

Mr. GILLETT. B is the as-is Voice of America one-tenth.

The CHAIRMAN. You say the as-is Voice of America one-tenth.

Mr. GILLETT. That is the 450-foot tower and the 400-foot reflector.

The CHAIRMAN. When you say "the Voice of America as-is one-tenth," that means nothing to me.

Mr. GILLETT. I am sorry. That is the Voice of America station as they built it, with an average field strength of one-tenth millivolt at night sky-wave signal; that is, a tenth of a millivolt, 50 percent of the time. That is the limit of service. It is thesame gra de of service as A is for the operation as built. That represents a reduction in area of about 20 percent.

The CHAIRMAN. What do the black lines represent?

Mr. GILLETT. The black lines are an attempt to cross-hatch this area without obscuring the territory. And if you think of it as turning like a wheel, the amount of black ink will make the picture gray by the amount that the service is depreciated. That is, here it will be 20 percent down in signal strength, and a little bit worse due to fading in the outer areas. As you get in here to about 600 miles, you may again get into trouble with the high angle radiation that is reflected from the Heaviside layer in Rumania and in this area, and where we have the strongest useful signal the fading will begin to be of the type we call selective, with very serious destruction of the quality, and by the time you get into a hundred or 200 miles that destruction will be large enough that I estimate the value of the program would be cut to perhaps 25 percent as far as listenability or intelligibility as compared to what it would have been with the station as we designed it.

The CHAIRMAN. Looking at these two exhibits, Mr. Gillett, I do

not see any great difference in the coverage. You seem to hit about the same spot on the Caspian Sea.

Mr. GILLETT. No, it is 10 percent shorter actually. And that is 20 percent in area.

The CHAIRMAN. Line A, you say, is that much shorter.

Mr. GILLETT. Than Line B. Line A is the same as is shown here. That is the average that would have resulted if it had been built as originally planned.

The CHAIRMAN. I understand. But with the 450-foot tower, your testimony is that you do not get the reception between A and B.

Mr. GILLETT. Well, the reception that was at A is moved into B.

The CHAIRMAN. Right.

Mr. GILLETT. Which I have defined as the limit of service.

The CHAIRMAN. Do I understand your testimony to be that the important thing, however, is not the reduction in area but the reduction in the signal strength, the listener value, in the area which is covered by the 450-foot station, as compared to the 900-foot station?

Mr. GILLETT. The 20-percent reduction in signal strength is serious. But you are quite correct that the major effect is the destruction of the usefulness of the listenability of the signal within the 600-mile radius of the station.

The CHAIRMAN. I see. Now, let us say between 600 and 1,000 miles from the station we were to compare the two. How would the 450-foot station and the 900-foot station compare?

Mr. GILLETT. It would not be so good, but it is gradually getting up to where it is only 20 percent worse.

The CHAIRMAN. I see. So that your lower tower gives you the worst reception within a 650-mile radius. Beyond that 650-mile radius the destruction of the signal——

Mr. GILLETT. Approaches only 20 percent.

The CHAIRMAN. We have a sizable number of Senators on this committee, and they want to read your testimony; and if you anticipate what I am going to ask and answer it, they may not anticipate correctly. Let me repeat that question for the record.

Your testimony is that one of the principal objections to cutting this down from 900 feet to 450 feet is, No. 1, you get very bad reception from the listener standpoint up to 650 miles from the station; that beyond 650 miles the difference between the 1,000-foot tower and the 450-foot tower is not so great.

Mr. GILLETT. It drops down to where it is 20 percent.

Senator SYMINGTON. Could I ask a question, Mr. Chairman?

Mr. GILLETT. Let me point out one thing before you ask that. In this latitude, which is very far north, in the wintertime what I call nighttime reception will apply for more than half the broadcast day as well as night because of the short suntime in the middle of the winter.

Senator SYMINGTON. Are you implying that your reception, because you have cut the size of the antenna, is worse immediately around the antenna than it is farther out?

Mr. GILLETT. From a range of 100 miles up to 600 miles it is very much worse.

Senator SYMINGTON. Now, you have given us back a hundred miles. Just being the Devil's advocate, you are saying if you cut the antenna

from the 900 feet to 450 feet the reception would be very much decreased inside the city?

Mr. GILLETT. It would be decreased 20 percent out to the 100- or 150-mile point. It will also be decreased all the way out. And the quality will largely be such as to destroy the usefulness of it during nighttime listening conditions from about 150 to 600 miles out.

Senator SYMINGTON. Mr. Chairman, I would like to have that testimony in that particular case checked by somebody you felt was an experienced radio engineer in that field. I do not understand that testimony, I must say.

The CHAIRMAN. I may say, Mr. Symington, that the counsel has been ordered to get the best possible radio engineers. We feel we have one of the top radio engineers here. We have asked other engineers whether they consider Mr. Gillett a top engineer. We have not had a single engineer who does not praise Mr. Gillett and say he is one of the very best.

Senator SYMINGTON. Well, it is news to me that the reception right around the station is worse than it would be two or three hundred miles away if you cut the antenna in half.

Mr. GILLETT. It may be news to you, sir, but it is well known in the industry. In fact, the FCC has a regulation that will not permit the use of a quarter-wave antenna, which is approximately what this is here, though it is top-loaded a little bit, on a frequency of this kind.

Senator SYMINGTON. What is the frequency you are using?

Mr. GILLETT. 755. All or practically all of our American high-power clear-channel stations use half wave or better antennas to minimize this fading which I am speaking of here, and which is well known in the industry.

The CHAIRMAN. In other words, then, there is nothing mysterious about the fact that the lower tower, the 450-foot tower, will give you comparatively much worse reception nearer to the station than farther away.

Mr. GILLETT. I have an article, or two articles, published in 1936 in the Institute of American Radio Engineers proceedings, in which that is all computed out in great detail by Dr. Brown, who is the top research man of the RCA, and the figures are given to show exactly why that is true and where this increased fading comes due to lower antennas.

The CHAIRMAN. And is this correct, Mr. Gillett, that in what you would call the key areas of Russia, the key target areas, you lose 75 percent of your listeners at night because of the inefficiency of the transmitting setup?

Mr. GILLETT. I think you lose 75 percent of the intelligibility. Whether you still lose that many listeners or not, I do not know. But it is seriously depreciated. It is a type of distortion that is extremely wearing and annoying to a person to listen to.

The CHAIRMAN. Let me ask you this: You went over to Europe to work on this at the request of the Army. Is that right?

Mr. GILLETT. That is right.

The CHAIRMAN. Do you think that this shifting from the 900-foot tower to the 450-foot tower effectively destroyed the efficiency and effectiveness of that particular broadcasting setup?

Mr. GILLETT. I do.

The CHAIRMAN. Do you think that was done because of stupidity? Or do you feel it was purposely done to sabotage any attempt to have good coverage of that key target area?

Mr. GILLETT. I have never been able to understand why it was done, because cables went through stating the reduction would be only 10 percent in signal strength, when it is known that that is false. That was sent through to Donnelly. I saw the cable myself. The only explanation that I have is either that the engineers of the Voice of America wanted to swipe the high tower for use in one of their stations, or it was done intentionally to emasculate the service into Russia.

The CHAIRMAN. Apparently they did not want to swipe the tower, because it is still lying there gathering rust, is it not?

Mr. GILLETT. They are planning, I believe, to use it at the second Voice of America station in Munich.

The CHAIRMAN. I think we should make it clear that the Voice was not in charge of this construction. It was the International Information Administration in Paris.

Mr. GILLETT. I am not sure of the technical name, because I never worked with them. I did present the whole story to Commissioner Donnelly. I also got the entire story to Mr. Compton as soon as he was appointed.

The CHAIRMAN. The reason I bring that up: We have been, I think, here blaming the Voice unintentionally for what the IIA was responsible for.

Mr. GILLETT. The engineering people, whoever they are with.

Mr. COHN. Mr. Gillett, when you found out about this situation, did General Fry arrange for you to go over and see Commissioner Donnelly, our High Commissioner in Austria?

Mr. GILLETT. Yes.

Mr. COHN. And did you have a meeting with Commissioner Donnelly and Mr. Moffly, who was thoroughly familiar with the situation, in which you went over all these facts with them?

Mr. GILLETT. I presented essentially the same facts to them as I did here.

Mr. COHN. And did Commissioner Donnelly after that express in a letter to General Fry his satisfaction with your appraisal of the situation and the fact that he had given instructions that this matter be reviewed with a view toward lengthening the tower so that proper coverage would be insured?

The CHAIRMAN. May I suggest if you have the letter there that it be read into the record?

Mr. COHN. I have two short letters; first of all the letter to Commissioner Donnelly from General Fry.

The CHAIRMAN. Mr. Counsel, some of the Senators came in late. Will you identify Mr. Donnelly and General Fry?

Mr. COHN. Mr. Donnelly, of course, was United States High Commissioner for Austria.

Now General Fry?

Mr. GILLETT. The top military commander, as I understand it, under General Keys, who was the commander in chief. I don't know his exact title.

Senator MUNDT. Were those the Keys from Oklahoma?

Mr. GILLETT. I don't know where he is from.

The CHAIRMAN. To whom is that addressed?

Mr. COHN. This is dated November 9, 1951, and is from General Fry to Mr. Walter J. Donnelly, United States High Commissioner for Austria, APO 777, United States Army.

DEAR MR. DONNELLY: This will introduce Mr. Gillett, consultant, Office of Special Representative in Europe, Economic Cooperation Administration, Paris, France.

Mr. Gillett was our adviser at the time we made extensive studies as to the desirability of increasing radio coverage from Vienna. It was he who selected the location for the 1,000-foot tower that we planned. He knows more about this subject than any man I have met. I am confident that you will enjoy meeting him and that he can give you valuable information concerning the background of our planning and possibilities of future radio efforts from your Vienna station.

All through my acquaintance with Mr. Gillett, I have been impressed with the fact that his greatest ambition is to do a good job for America during this period of cold-war operation. In this respect, his natural instincts are spurred on by the fact that his son was killed in action at Futa Pass while serving in a regiment adjacent to the one I commanded during that battle.

Sincerely,

J. C. FRY,
Brigadier General, United States Army, Commanding.

The reply is as follows from Commissioner Donnelly to General Fry, dated December 4, 1951:

DEAR GENERAL FRY: I spent about 2 hours with Mr. Glenn Dewey Gillett last week and was tremendously impressed with him as an engineer and as a patriotic American citizen. During the course of our conversation, I asked Mr. Charles Moffly to sit in with us so that Mr. Gillett would be informed as to the present work that we are doing on the radio towers here in Vienna.

I was very satisfied with what Mr. Gillett had to report and have instructed Mr. Moffly to study the possibility of lengthening out our towers since, as Mr. Gillett explained, the effectiveness of radio coverage would be so much greater.

I shall keep you informed of whatever progress we might make in this line and thank you again for your kindness in recommending Mr. Gillett to me. With my very best wishes, I remain

Very sincerely yours,

WALTER J. DONNELLY,
United States High Commissioner for Austria.

Now, may we have these two in the record, Mr. Chairman?

(The letters referred to were marked "Exhibits Nos. 56 and 57," and may be found in the files of the subcommittee.)

Mr. COHN. Following that, did you also, through mutual acquaintances, have this situation called to the attention of Dr. Compton?

Mr. GILLETT. Almost as soon as Compton was appointed, and before I believe he had left Washington, a mutual friend of my associate, Mr. Bergquist was in the office, and we told him of this problem and what had happened, and he said he was having dinner that night with Dr. Compton, who was a friend of his, and that he would give Dr. Compton all this information.

We were later informed that he had done so and that Compton would undoubtedly get in touch with me. And I have heard just exactly the same nothing that I did from Mr. Donnelly.

Mr. COHN. And as far as you know, the station is still operating with the 450-foot tower; is that right?

Mr. GILLETT. I have seen the proof of performance and measurements of the adjustment showing it is.

Mr. COHN. Did you also make representations along these lines to Mr. Herrick, who was the Chief of the Engineering Department of the Voice?

Mr. GILLETT. Not since it was done.

Mr. COHN. Did you do this prior to the time it was done?

Mr. GILLETT. Mr. Herrick called me, when his agency first took over the responsibility for completing construction, and asked to see all the papers and all the data that we had, as professional engineers, on which we based the predictions. His main objective seemed to be to find some basis to prove that we were wrong. And I never did talk to Herrick after the heights were reduced.

Mr. COHN. There is one question I wanted to ask you here, Mr. Gillett. You stated that you saw a cable from New York just saying that the reduction in the size of the antenna would amount only to a 10-percent reduction in effectiveness. Is that right?

Mr. GILLETT. In signal strength.

Mr. COHN. In signal strength. Where did you happen to see that cable?

Mr. GILLETT. I saw that in the files in Vienna when I was there in November of 1951.

Mr. COHN. You saw that in the files. Is that right? And, of course, you have testified that that figure submitted by the Engineering Department as justification for this reduction in the size of the tower is not in accordance with the facts. Is that right?

Mr. GILLETT. The figure should be 20 percent, and there should be a considerable statement as to what it would do to the impairment of the nighttime service.

Mr. COHN. Now, one last question here. This morning we had Mr. Bracken in from the Legal Department, and we told him we had been trying to locate Mr. A. D. Ring, whose name was submitted to us. Mr. Bracken, I believe, told us that Mr. Ring, who we have been previously told went to the Pacific some time ago, had just left for the Pacific 10 days ago. Have you seen Mr. Ring lately?

The CHAIRMAN. Mr. Counsel, I just have received word from Mr. Leahy that Mr. Ring has returned on March 10 and will be available to us.

Mr. COHN. That was our information.

The CHAIRMAN. I have asked Mr. Leahy to talk with Mr. Ring, and, if he disagrees with the testimony heretofore given, that he should come in and testify. And Jack is going to talk to him.

Is that right?

Mr. LEAHY. That is correct.

Mr. COHN. I have no further questions, Mr. Chairman.

The CHAIRMAN. Just one question. You talk about the reduction of the signal strength by 20 percent. That does not mean too much to the lay mind, to a man who is not a radio engineer. Let me ask you this: How much would the signal strength have to be reduced, by what percentage, until it becomes completely ineffectual from the listener's standpoint?

Mr. GILLETT. Well, that you cannot answer, sir. If you are 6 feet high and you are in water 5 feet 5 deep, if you reduce your height 10 percent then it puts your nose under water, and completely destroys you. But if the water is only 5 feet deep, it only put you half as close to the water as you were before. So that it is a relative matter. It does reduce the signal strength everywhere equivalent to a reduction in power of a third. It does wherever there is marginal reception make a very marked difference. It always increases the

noise by 20 percent that you hear in the background. If you have very little noise, it makes no difference.

The CHAIRMAN. In other words, in an area in which you can barely get the program, the 20-percent reduction would knock it out entirely?

Mr. GILLETT. It makes all the difference in the world.

The CHAIRMAN. If you are getting excellent reception, the 20-percent reduction would mean very little.

Mr. GILLETT. That is right.

The CHAIRMAN. And you say this 20-percent reduction is the most damaging within a 650-mile radius, and in effect cuts out about 75 percent of your listening audience at night?

Mr. GILLETT. No, the 20 percent is not damaging, but the fact that the type of antenna you use totally alters the quality of the program received, even though it is still strong, even thought it is only 20 percent down in strength, does destroy its listenability and its intelligibility.

The CHAIRMAN. So you have two factors, then, to take into consideration. Number one, your signal strength is reduced by about 20 percent. Number two, the change in the antenna from a 900-foot antenna to a 450-foot antenna gives you a poor-quality reception. Is that what you would say?

Mr. GILLETT. Yes.

The CHAIRMAN. And that is entirely separate and apart from the 20-percent reduction in the signal strength?

Mr. GILLETT. Yes.

The CHAIRMAN. And it is this second factor that you mention which makes this broadcasting station of very little value in the principal target area?

Mr. GILLETT. That is right, at night, under nighttime conditions, which at those latitudes in the winter would run until about 9 or 10 in the morning and start again about 3 or 4 in the afternoon, clear through the time the people went to bed.

The CHAIRMAN. In other words, at the time people would normally be listening to a broadcast, your station is of practically no value in that 650-mile area.

Mr. GILLETT. Its quality is almost destroyed, seriously depreciated.

The CHAIRMAN. Then is it safe to say that whether this has been done because of stupidity or purposely done, this project has been effectively sabotaged?

Mr. GILLETT. That is correct.

The CHAIRMAN. Senator McClellan?

Senator MCCLELLAN. Were there any other considerations for the use of the 450-foot antenna that you speak of?

Mr. GILLETT. Well, there was rumor, as I say, that the air attaché for the British had objected to this on account of interference with their gliders in the glide path.

Senator MCCLELLAN. Was that the principal objection?

Mr. GILLETT. That was the objection that was given to me by all people concerned as to why they cut it down. This objection was apparently accepted, because they did not have or did not take the trouble to locate the previous signed consent of the British. I was never asked to help locate the information or to tell them what had happened. I have never been consulted as to any of these details since they decided to cut the antenna.

Senator McCLELLAN. Were your services discontinued after they decided to cut the antenna?

Mr. GILLETT. I was hired by the Army and was paid by the Army. I was never paid for any of the work that I did in giving data. I made a 30- or 40-page report for the State Department on this whole thing. I had numbers of conferences with their engineers. I offered to go to Europe at no expense for my time to help the engineer who was taking over the actual construction, pick up all the details and loose ends, and my offers were refused without thanks.

Senator McCLELLAN. Do you know whether the 900-foot tower would have interfered with the aviation operations in that section, of the British?

Mr. GILLETT. It would not have been serious, sir. I have spent 20 years working with the CAA and air officials here in this country on air hazards of towers, and I am not an aviator, but I am quite familiar with the problems, and, as I say, the location was such that we would have had no trouble getting approval from the CAA in this country for the tower.

Senator McCLELLAN. For the 900-foot tower?

Mr. GILLETT. For the 900-foot tower. For even a thousand-foot tower.

Senator McCLELLAN. You would have had no trouble here?

Mr. GILLETT. That is right. Also it was a question of a calculated risk in order to permit us to do the maximum possible job in the countries to the eastward.

Senator McCLELLAN. Apparently there is some indication that the prime reason for abandoning the 900-foot tower, and the use of the 450-foot tower, was the objection of the British.

Mr. GILLETT. That is the excuse. I know from the CAA and from Mr. Moffly that they had clearance for 650 feet, which would have recovered about half of what they lost by going to 450 feet, and they did not choose to bother to use it.

Senator McCLELLAN. But your position would be, assuming that is true—I say "your position"; I mean it would be apparent, then—that prior to the plans, to perfecting the plans, for the 900-foot tower, the British were not consulted.

Mr. GILLETT. Oh, they were consulted, and we have their signature to it.

Senator McCLELLAN. Of approval?

Mr. GILLETT. Yes.

Senator McCLELLAN. Prior to it?

Mr. GILLETT. Yes; of the High Commissioner, and of the French.

Senator McCLELLAN. All of it was approved, then?

Mr. GILLETT. Yes, completely.

Senator McCLELLAN. Before you started?

Mr. GILLETT. Absolutely. Before we spent a dime.

Senator McCLELLAN. And they went so far as to order the antenna, and got it there, got it delivered, and then abandoned the plan?

Mr. GILLETT. Yes.

The CHAIRMAN. May I say to Senator McClellan that I have just been informed by Mr. Leahy that Mr. Cupps, the construction engineer who is in charge of the entire project, is in the room; that he has what he considers an expert on wavelengths here. And I think while Mr. Gillett is here, we should have those three men here. I understand

the wavelength experts will substantially agree with you on your picture, here, but I would like to have them up here.

Senator McCLELLAN. I would like to ask him one more question.

The CHAIRMAN. I am sorry, Senator.

Senator McCLELLAN. Let me get this clear in the record. You have used the word "emasculated."

Mr. GILLETT. Well, I have, intentionally.

Senator McCLELLAN. Intentionally. Well, that carries with it pretty serious consequences.

Mr. GILLETT. That is my view of what happened.

Senator McCLELLAN. That is exactly what you intended to convey by the use of the word?

Mr. GILLETT. Yes. I would stake my professional reputation on this.

Senator McCLELLAN. From a practical viewpoint, then, was there justification for constructing the station, on the basis that it is now constructed and put into use?

Mr. GILLETT. I do not believe there was any justification for constructing it as it is now put into use, when it could have been constructed as originally designed.

Senator McCLELLAN. You do not think, then, it would be regarded as a practical project or facility had the original plans indicated that this would have been the result?

Mr. GILLETT. Oh, it was better than nothing, sir. But there is no use in putting in a half effort when you can put in a full effort.

Senator McCLELLAN. Has anything been developed since to take care of the deficiency of this station in the areas that it would have covered?

Mr. GILLETT. No, there is no possibility of it.

Senator McCLELLAN. And there is no possibility of it.

Mr. GILLETT. No, sir.

Senator McCLELLAN. That is what I wanted to clear up.

The CHAIRMAN. Senator, I would like to read into the record a letter from Glenn D. Gillett and Associates, consulting radio engineers, to the Department of State. I think this is important to have in the record to show that this witness had no interest in obtaining the contract. His firm had been asked to bid on this contract, on this construction project.

MAY 18, 1951.

Mr. WILLIAM R. HARMON,
Department of State, New York, N. Y.

DEAR MR. HARMON: Reference is made to your verbal invitation to submit a bid on the Austrian project.

Recently two partners of the firm Glenn D. Gillett & Associates have withdrawn to accept positions in defense work. The senior partner is on leave with the Economic Cooperation Administration and is attached to the Office of Special Representative of the ECA in Paris, France. This leaves me the only partner and engineer to conduct the business.

Under these circumstances it is impractical, even if awarded the contract, to leave the country to complete the Austrian project.

Accordingly, it is with deep regret that I must decline to submit a bid on the Austrian project.

Very sincerely yours,

PAUL BERGQUIST.

I merely read this, Mr. Gillett, to show that you had no financial interest in this particular project; that your firm said they did not care to do the construction work on it.

(The letter referred to was marked "Exhibit No. 58," and may be found in the files of the subcommittee).

The CHAIRMAN. Let me ask you this: Is it correct that you refused to accept any money for any work you did for the State Department while in Europe on this particular project?

Mr. GILLETT. Not only in Europe but in this country.

The CHAIRMAN. And you paid all of your own expenses over there?

Mr. GILLETT. No. I think I was paid by the ECA, and I was in Vienna and in Austria on work for them and did this evenings and in my spare time between the job for the ECA——

The CHAIRMAN. I see. And you offered to go over again for nothing?

Mr. GILLETT. I offered before that, when the State Department agency first took over the construction and asked me for the details. I explained that there were lots of loose ends that could be picked up only on the ground, really, and when they said they were short on funds, I said that I was not looking for profit or remuneration, that, "I will go if you will pay my expenses for whatever time is necessary, at least 2 weeks, to go over all of the details on all three sites so that you can pick them up without any loss of effort."

The CHAIRMAN. Just shifting for a moment to another subject before we bring Mr. Cupps and Mr. Ross up: In 1936, did you submit a report to the State Department on the matter of propagation on the west coast? Do you remember whether you submitted a report to the State Department in 1936?

Mr. GILLETT. In 1936, I was retained by one of our clients to make a study of the problem of location and service that could be rendered to the Orient and to South America by one of the so-called shortwave broadcasting stations that were authorized at that time by the FCC, to carry broadcasting for pay. And that study was made for my client and delivered to my client in California. I have no knowledge as to what he did with it.

The CHAIRMAN. I see. And that had to do with the same subject we have under discussion, namely, the location of a shortwave transmitter on the west coast?

Mr. GILLETT. Our studies at that time showed that the best location for a station to serve Japan and China, Formosa, and Indochina, was, of all points along the coast, as far south as possible, in southern California, preferably in the Los Angeles or Ventura area.

The CHAIRMAN. I merely mention this, Mr. Gillett, because there has been some claim that it has not been general knowledge in the radio engineering profession that it would be unwise to locate a shortwave transmitter aimed at a distance in the magnetic storm area, and your testimony is that some 17 or 18 years ago you made a complete study and you determined it would be unwise to locate a shortwave transmitter up in the heart of the magnetic storm area, but that it should be located in southern California.

Mr. GILLETT. Yes. I don't know that you should deduce from that that it was complete general knowledge at that time. You see, I had been 1 of 2 or 3 engineers with the Bell System that had run the first systematic measurements on shortwaves to determine skip distance and effective magnetic fields to both Bermuda and England back in 1927 and had worked with the Bell System in the planning department while they were developing the shortwave telephone sys-

tems to Europe, and had been in on the experimental data showing the destruction of service whenever the magnetic storms bloomed in this magnetic area.

The CHAIRMAN. Let me ask you this. In view of these studies made not long ago on this particular subject, can you think of any reason why any competent radio engineer would locate a shortwave transmitter which was to be aimed at a distant target in the Seattle area, that is, up in the magnetic storm belt?

Mr. GILLETT. I could think of no reason why you would locate it there to aim toward Asia. If you head it south, it wouldn't make any difference where you put it.

Senator JACKSON. Mr. Chairman, may I ask a question?

What about heading it to Manila from Baker West?

Mr. GILLETT. Strange to say, the path to Manila goes up by Attu, the Great Circle course.

Senator JACKSON. You said to Asia.

Mr. GILLETT. Well, I consider Manila as Asia. I am sorry.

Senator JACKSON. I wanted to narrow it on down.

Mr. GILLETT. Anywhere from Manila on east.

Senator JACKSON. Mr. Gillett, I want to ask you this question: Can you account for any reason why the people at MIT, in 1951, should recommend the present locations of Baker East and Baker West?

Mr. GILLETT. No. Because the Bureau of Standards Propagation Section were putting out monthly predictions that I found while I was consultant to the 20th Air Force on Guam were extremely accurate, enabling me to predict for weather strike planes back as far as Sakhalin and north of Japan so as to let the men get back when they wouldn't otherwise have gotten back.

Senator JACKSON. How did these men rate at MIT from a professional standpoint?

Mr. GILLETT. I don't know personally.

Senator JACKSON. What is the general reputation in the broadcasting field or the electronics field? What is their general reputation?

Mr. GILLETT. Their general reputation on radar is very high. They did a magnificent job during the war on radar, which is very short pulse. As far as this is concerned, however, I think I am disqualified, because I am a Harvard Engineering School graduate, and there is no love lost between Harvard and MIT.

Senator JACKSON. You are being forthright.

This troubles me, because the testimony we have before the committee is that in 1951 they recommended these sites, and then changed their mind, I believe, a year later, and I am trying to find out the reason for it, or why they recommended it in the first place. It had been my impression that MIT was, if you will excuse me, from your prejudiced position, for a moment—that MIT has always been considered to have some top people in the engineering field, and I, as a layman, just assumed that they should know something about this area of propagation.

Mr. GILLETT. It is not one of their strong fields. And MIT is like a great department store with a great many departments, some of which are excellent, and some of which may not be.

The CHAIRMAN. You say radio is not their strong field.

Mr. GILLETT. So far as I know. I am not primarily a shortwave expert, though I have done a lot of work in it. I am familiar with the

problems and the literature that is available. But I have not come in contact with their work, and they are not one of the sources that I would have thought of to go to.

Senator MUNDT. Mr. Chairman, have you determined from the witness who it was who made the decision to cut back from 900 feet to 450 feet?

The CHAIRMAN. I believe you testified on that.

Do you know the individual responsible, Mr. Gillett, for the reduction in the height of the tower from 900 to 450 feet.

Mr. GILLETT. I don't know of my own knowledge. The inference was that it was Mr. Herrick that had the final decision, but I don't know.

Senator MUNDT. We have a cable here signed by a man by the name of Dowling. Do you know who Dowling is?

The CHAIRMAN. What is that name?

Senator MUNDT. Dowling.

Mr. GILLETT. I have never heard of it.

Senator MUNDT. He apparently was head of the Vienna station.

Mr. GILLETT. Wasn't that Donnelly?—Oh, he was one of the members of the State Department staff; yes. I did meet and work with him.

Senator JACKSON. Did they give any reason for cutting down the size of the tower?

Mr. GILLETT. The only reason they gave was that an air attaché from the British objected, and they couldn't find quickly in the files the signed approval, and they never asked me to help them find it.

Senator JACKSON. Did you indicate to them that if they cut the tower from 900 feet to four hundred odd feet, it would eliminate the transmission of information to Poland and Russia?

Mr. GILLETT. I have furnished the committee with a transcript copy of the memorandum, setting forth exactly the same information I have given here, with the exception of the maps, to Commissioner Donnelly in Vienna in November, the latter part of November of 1951. It is exactly the same information that I gave by word of mouth, by mutual friends, to Dr. Compton, when he was first appointed. I also made protests to the engineer who had been hired by IBD, or whatever it is, to do the adjustments, that I talked to in Paris, and I asked him to carry my strong protests to the people in Vienna, in the summer of 1951. I have always been shocked and outraged at what has been done to what could have been a monument. You see, this tower was to be erected on about the equivalent of the Lee Custis Mansion position in Arlington here, and it would have been nearly twice as tall as the Washington Monument and would have loomed over all of Vienna, with its lights to avoid aviation at night, like a monument, and would have been a living evidence to everybody in Vienna that the Americans were willing to try to do their utmost to help in Vienna. And, as it is, it has been cut down to where it is not at all conspicuous.

Senator JACKSON. How far will the beam go now?

Mr. GILLETT. Well, I have explained that the actual distance as to any given signal is reduced about 20 percent.

Senator JACKSON. Does the signal go to Poland, or to the Soviet Union, now?

Mr. GILLETT. Oh, at night; yes. But it is also garbled to where, over much of the area, the fading destroys its intelligibility and its listenability.

Senator JACKSON. But the reason that you gathered from your discussions and conversations with the people over there was that the British had protested as to the height?

Mr. GILLETT. Yes; and I got the impression that they welcomed the protest, because it gave them an excuse to not build the tower.

Senator SYMINGTON. The British?

Mr. GILLETT. No; the IBD engineers.

Senator JACKSON. But you felt they wanted to use that as an excuse, that they did not want to build an effective tower?

Mr. GILLETT. My entire impression during all my contacts with them was—in fact, I have wondered whether the objection was not instigated by the engineers of IBD.

Senator JACKSON. Now, could you give the committee the names of the instigators? Because this is pretty serious. I mean the ones that you talked with.

Mr. GILLETT. I have talked to Harmon and to Cupps.

Senator JACKSON. Harmon? And who is the other?

Mr. GILLETT. Mr. Cupps, who is in the room. Mr. Cupps did not come into the picture until the decision was made and could have had no possible part in it.

Mr. GILLETT. Mr. Harmon was over there when the objection developed.

Mr. GILLETT. Mr. Harmon was over when the objection developed.

Senator JACKSON. Now, would there be anybody else who would be behind this move?

Mr. GILLETT. I don't know, sir.

Senator JACKSON. I mean that you talked with.

Mr. GILLETT. No; Harmon is the only man I talked to. You see, as soon as I began to voice my protests, there was official word sent out both from Vienna and from New York that none of the engineers concerned were to talk to me or give me any data whatsoever.

Senator MUNDT. Does the State Department have any other projection antenna in that area for reaching the target areas of Poland and Russia?

Mr. GILLETT. Not that section of Poland and Russia.

Senator MUNDT. Not that section?

Mr. GILLETT. The Voice of America stations in Munich are, for the most part, beamed to the northern part of Russia, rather than the central and southern.

Senator SYMINGTON. I would like to ask you a couple of questions. I want to be sure that I get it straight.

You call this shortwave. Right?

Mr. GILLETT. No. This is not shortwave.

Senator SYMINGTON. 755 is not shortwave?

Mr. GILLETT. No. That is the middle of our broadcast band. It is the same broadcast band that we use in this country, from 550 to 1600, what we call in Europe the medium-wave band.

Senator SYMINGTON. Now, you cut the antenna 50 percent. That is, from 900 to 450.

Mr. GILLETT. That is right.

Senator SYMINGTON. And you have destroyed the signal within 600 miles of the station; is that right?

Mr. GILLETT. That is right.

Senator SYMINGTON. So that you really might as well not have an antenna at all? I am just trying to follow you.

Mr. GILLETT. No; there is service there. But let us say you take a man who can shout so far and fill his mouth full of marbles. You can still hear him, but it doesn't mean much.

Senator SYMINGTON. In other words, if you were out 600 miles, that would be the 5 feet 5 you were talking about, maybe. I am only asking. I am not arguing. But it seems to me that if you were within 20 or 30 miles of the station, the fact that you cut the height of that antenna, going, I think you said 1,800 miles—I do not quite understand how you would eliminate any desirable reception of any kind whatever.

Mr. GILLETT. The reception within about 150 to 100 miles of the transmitter, I have said, would not be seriously affected.

Senator SYMINGTON. Oh, I see. Within a hundred to 150 miles.

Mr. GILLETT. Then you begin to hit what you call the fading wall, sir, and that reaches its peak at about 300 miles, and then tapers off to where there is not much difference out beyond 600 or 650 miles. I don't know whether you have ever listened around here at night to WWL in New Orleans. It is the best sky-wave service in this area and was designed as such by us for the Loyola University, so as to serve their Catholic population at night.

Senator SYMINGTON. I want to ask you about that glide pattern. Do you know the CAA rules in this country as to how close stations can be?

Mr. GILLETT. Oh, yes. That is stock in trade.

Senator SYMINGTON. How far can you put one airfield from another, from the standpoint of your landing pattern?

Mr. GILLETT. This does not affect the landing pattern at all. This is not to airfields.

Senator SYMINGTON. But the height of the tower would not affect your landing pattern?

Mr. GILLETT. It depends on where it is.

Senator SYMINGTON. That is right.

Mr. GILLETT. This is 14.5 miles away. It is in a cup of the mountains in which hills and trees behind are within 200 feet of the same height as the antenna.

Senator SYMINGTON. Do you think there might have been some justification on the part of the British when they protested?

Mr. GILLETT. No; because their maneuver pattern and landing and approach is from the south, and this is the north. If they have to use a north approach on account of hills to the westward, they have to swing to the east of the beams, which puts them over the flat country. There is no question of interference with the maneuver and landing.

Senator SYMINGTON. In other words, you think the British request to cut the tower because of their glide path was in error. Is that it?

Mr. GILLETT. Well, any tower is a potential hazard. As one CAA man told me, "If you put up a toothpick anywhere in the United States, I won't approve it, because a plane might hit it, and then I would be to blame for it."

Senator SYMINGTON. I was only asking you a very simple question. Do you think the British were in error?

Mr. GILLETT. I do not think their protest was justified.

Senator SYMINGTON. You do not think their protest was justified.

Now, you said a minute ago that you thought the MIT observation was incorrect. Is that right? With respect to Baker West?

Mr. GILLETT. I think there is no question about it, sir.

Senator SYMINGTON. Well, would it not be possible that the British had made a mistake when they first approved it and then decided it did interfere with their landing pattern?

Mr. GILLETT. Yes; there are always horse races.

Senator SYMINGTON. I am not talking about horse races. I am talking about landing patterns. Now, one other question I would like to ask you. You said you felt that the Americans relished, as I got it, the objection of the British. Is that it?

Mr. GILLETT. I think I got the impression that they were not disappointed.

Senator SYMINGTON. Whom did you get that from?

Mr. GILLETT. From a talk with the various engineers.

Senator SYMINGTON. Whom did you talk with?

Mr. GILLETT. Well, one was Harmon.

The CHAIRMAN. To properly identify Harmon, may I add this——

Senator SYMINGTON. Yes. Who is Mr. Harmon?

Mr. GILLETT. I also got it from my conversations with Mr. Herrick initially.

The CHAIRMAN. May I, Mr. Gillett, for Senator Symington's benefit, and that of the other Senators, say that we have previously introduced some correspondence by Harmon, which I think might have some significance here at this point. He was with the IIA. And I will read from a document heretofore introduced in evidence. He was referring to a Mr. Creed at that time. He says:

> This brings up the question of Creed and how we can eliminate him. Based on a strictly survey value, Creed has done an exceptional job. His operating costs have been reduced. The outage time for negligible overall operation is a relatively clear one. He is always coming up with some moneysaving device, as the attachment shows. His efficiency ratings have been good, which is of course not grounds for dismissal or transfer. The only possible solution I can see to get rid of him is to abolish the job as Director and rewrite a job description to cover the title of Chief Engineer. * * *

I thought you should know that this is the same Mr. Harmon.

Senator JACKSON. What is Harmon's official position?

Mr. GILLETT. Well, he was introduced to me as the engineer that was going to have charge of the construction for the IIA of this entire project in Austria after it had been taken over by the State Department.

Senator JACKSON. Where is he now?

Mr. GILLETT. I don't know. I haven't seen him since the spring of '51.

Senator SYMINGTON. Now, just so that we can concentrate and pinpoint your testimony, so that we can understand it thoroughly, you felt that this was maybe just not a mistake of judgment; that it might have been something deeper than that?

Mr. GILLETT. It is significant that the only part of the plan that was altered was that part which would seriously depreciate the service to the areas behind the Iron Curtain.

Senator SYMINGTON. What do you mean by "significant"? Could I ask you that?

Mr. GILLETT. Well, it is significant in my mind because it is the same type of mistake that could be accredited to stupidity in individual cases. It is the same type of thing that I have encountered in talking to other engineers with other sections of the IIA's work in construction. It is apparently a pattern.

Senator SYMINGTON. That goes beyond stupidity?

Mr. GILLETT. Well, I think, as one person put it, if you were just stupid you couldn't be wrong all the time.

Senator SYMINGTON. What would you say about the MIT decision on Baker West? Was that stupid, or was that part of a pattern?

Mr. GILLETT. I don't know.

Senator SYMINGTON. You do not know about that?

Mr. GILLETT. I don't know who did it. The answer they came up with is not the correct answer.

Senator SYMINGTON. One other question: About the British changing their mind and thinking the tower was too high——

The CHAIRMAN. Stu, in fairness to MIT, I think it should be pointed out that they have told the staff a sizable number of times that they were not given time to make this study. It was a new study to them. And the location was made before they had a chance to make a complete study. I think that should be in the record.

Senator SYMINGTON. I would like to respectfully present that I have done a lot of business with MIT, and I think that Dr. Compton is perhaps our greatest scientist today, Dr. Karl Compton.

Mr. GILLETT. I agree with you. I am a great admirer of Compton.

Senator SYMINGTON. But you felt they were probably not equipped to make a decision in this field?

Mr. GILLETT. I was not aware—It may be my ignorance in that—that they had any strong background in this field.

Senator SYMINGTON. Now, one other question I would like to ask you. Would it not be possible that the British were just stupid, too, when they made their original decision to approve the height of the tower? Or do you think there is a pattern there?

Mr. GILLETT. Well, they certainly weren't stupid. My observation of British public servants is that they are not stupid.

Senator SYMINGTON. Do you think there was a pattern in their desiring to cut the tower from 900 to 450?

Mr. GILLETT. No. You see, any air attaché always objects to anything that might possibly be a hazard, because then if he has objected to it and anything happens, he is on record and in the clear.

Senator SYMINGTON. Now, Mr. Gillett, I have only one more question I would like to ask you, and I am sorry I was not here when you first started testifying. That is: You were interested in this project. You thought the tower ought to be 900 feet. The tower was cut to 450 feet, apparently, from a document that we have here, at the suggestion of the British air attaché, and that was approved by the Americans as being the right thing to do, to cut it to 450 feet because it interfered with the passage of airplane traffic in this part of Vienna or wherever this was.

Mr. GILLETT. They thought it might interfere.

Senator SYMINGTON. Is there not as much chance that they did it sincerely and honestly, as that they did not do it sincerely and honestly, especially as the suggestion originated with the British?

Mr. GILLETT. I am not clear that we have any proof that it did originate with the British.

Senator SYMINGTON. If it did originate with the British?

Mr. GILLETT. The reason I was so concerned is because the ink was hardly dry on the 450 foot decision, when, long before any construction work had been started, it was admitted to me by Mr. Moffly himself, in the presence of Mr. Donnelly, and independently by the CAA authorities, representatives of the CAA in Vienna, that at the same time this objection had come through they had been later told almost immediately that neither the CAA nor anyone else would have any objection to the installation of a mast 650 feet high, which would have recovered half the loss in signal strength and two-thirds of the loss in the service value of the station. And they didn't do it, because it was too much bother to wire the manufacturer as to which sections they should take out of the tower to reduce it from 900 to 650 feet. Now, when they won't take that much trouble to salvage as much as they could of the plans, one wonders.

The CHAIRMAN. Could I put this in the record? Mr. Leahy has asked me not to read this, because it is a decoded message, and it might endanger our code if this were read into the record. I am going to tell what is in the message and let the other Senators examine it, and, if they want to add anything further by a careful paraphrase, good.

This is from Dowling, with apparently the office of Acting Administrator of HICOG.

Mr. LEAHY. The Acting High Commissioner.

The CHAIRMAN. The Acting High Commissioner. And he says that the British object to a 900-foot tower. They would prefer a 450-foot tower. Then he goes on to recommend that a 400-foot tower be used. In other words, Dowling was going to use this 50 feet below what the British had requested. I gather his reason for doing that was because there was a 400-foot tower stockpiled at Salzburg at that time. I believe that is the gist of the message.

May I ask the witness: If this had been reduced all the way down to 400 feet, would that 50-foot change make much difference?

Mr. GILLETT. Yes. Because you go over a critical point. The 450-foot tower had been specially designed with isolating insulators near the top, so that it could be top-loaded and resonated to simulate a tower approximately 600 feet high.

The CHAIRMAN. Can you think of any reason why Dowling apparently on his own said, "Let us make it only 400 feet," when the lowest tower the British asked for was 450 feet?

Mr. GILLETT. I don't know of any reason, except to be a good fellow and go along with the British a little further.

Senator SYMINGTON. Well, I would like to ask you a question there if I may. Now, if you are going to take a 900-foot tower and cut it up down to a 450-foot tower——

Mr. GILLETT. No; they didn't cut it to 450. They took another tower.

Senator SYMINGTON. That is right. If you have a 400-foot tower. And let us assume these people are not completely expert in the rel-

ative attenuation that we discussed, and you have a 450-foot tower available, there. Perhaps would it not be possible to think that they were willing to take a 900-foot tower and use it, say, at Munich or somewhere else intact as a 900-foot tower and then use the 400-foot tower that the had there?

Mr. GILLETT. Well, I have never suggested that they should use the 400-foot tower.

Senator SYMINGTON. I do not think you answered my question. My point is: They had a 400-foot tower.

Mr. GILLETT. They had a 450-foot tower, which we had bought, and a 400-foot tower.

Senator SYMINGTON. I beg your pardon. They had a 400-foot tower stockpiled at Salzburg. Might they not think if they had to go from 900 feet to 450 feet at the request of the British, instead of taking a 900-foot tower and messing it up to the point of making it 450 feet, they could take the 900-foot tower and use it somewhere else, and use the 400-foot tower, not being as expert as you were?

Mr. GILLETT. I think Dowling was perfectly sincere. He knows nothing about radio and sky-wave transmission. The 450-foot tower was provided with top loading and resonating so that it could be lifted up to the equivalent of a much higher tower than could the 400-foot. And what they did use, of course, was the 450-foot tower for the main radiator and the 400-foot tower as the reflector, which was the proper choice if they were going to do that.

Senator MUNDT. They had a 900-foot tower, did they not? And they had a 400-foot tower stockpiled at Salzburg?

Mr. GILLETT. Yes; and a 450-foot tower bought for the second tower.

Senator MUNDT. They had three towers, then?

Mr. GILLETT. Yes.

Senator MUNDT. So they had three towers stockpiled and could use any one of them.

Mr. GILLETT. Yes; but they also had a tower that, very simply, by not putting all the joints in the fish pole, could have been an excellent radiator, at 650, and they could have used the 450-foot tower for a reflector that was much better than the 400-foot tower they did use.

Senator SYMINGTON. Did you not say they could have found out within a week how to take a 900-foot tower and make it a 450-foot tower?

Mr. GILLETT. And make it a 650-foot tower.

Senator SYMINGTON. But they still had a 400-foot tower on the grounds somewhere.

Mr. GILLETT. Yes; which they had to use, which was designed as the reflector. This was a two-tower job.

Senator SYMINGTON. I see. Now, reading this telegram, apparently Mr. Dowling said: In order to be sure, as long as the British have protested, maybe we had better use a 400-foot tower instead of a 450-foot tower. Do you think he said that in good faith?

Mr. GILLETT. Now that I place Dowling, I don't question his good faith. I was much impressed with his integrity in my dealings with him, and I have complete faith in him. I just think he didn't know what it meant.

Mr. COHN. We can assume Commissioner Dowling was not the one that had the technical knowledge on this, that he was relying on what he had been advised.

Mr. GILLETT. I think he signed a telegram somebody else prepared.

Senator MUNDT. Do you know what has happened now to the 900-foot tower?

Mr. GILLETT. There are various reports. The last factual report I have is that it is in the warehouse at Munich, and I also was told by people who are authorities, I believe, that it is planned to use it on the long wave second Munich Voice of America station.

Senator JACKSON. Mr. Chairman, I just want to make a brief observation. I am greatly disturbed about the report that MIT made in 1951, which I understand was the basis for the location of the Baker projects. And when we get back to that subject again, at the appropriate time, it seemed to me that we ought to have those people down here and get a statement from MIT. Because I am completely confused on it.

The CHAIRMAN. May I say, Senator Jackson, that we have asked for the report that was allegedly submitted at the time the station was located at Seattle. We have been informed by both IIA and MIT that no such report was ever submitted in writing. Counsel has been in constant touch, I understand, with the engineers at MIT, among them Dr. Wiesner. He has told them that if they differ with the conclusion arrived at at this time, they may come down and testify. I understand they do not differ with the conclusion arrived at, that is, that Seattle is an improper area. In fact, in fairness to MIT, it should be pointed out that in 1952, at the time when only $200,000 had been spent on the present location of Baker West, at that early date apparently MIT agreed that the change should be made. General Stoner, at that time, sent a memorandum to Compton.

Senator JACKSON. Yes, I am familiar with that memorandum.

The CHAIRMAN. So I think we should make it clear that MIT, No. 1, never submitted a written report suggesting Seattle as a location for Baker West.

Senator JACKSON. Or Baker East?

The CHAIRMAN. No. 2, they were not prepared to submit a report at the time the site was selected.

And No. 3, at a time when very little money had been spent on Baker West, MIT apparently agreed that was the wrong location.

Senator JACKSON. Can we find out: Did they ever recommend in 1950 or any time, the Baker West or Baker East project?

The CHAIRMAN. I think we should, and we have been planning to do it. I think we should get the MIT engineer down here. Unfortunately, Mr. Kaplan, through whom all the information passed, is dead. We will try and get to the man who knows the next largest amount about this project.

Senator JACKSON. That is my concern, to find out just what they did recommend. You say it is not in writing. So was there a verbal recommendation to the Voice of America people?

The CHAIRMAN. As I say, the information we have from them is that they were not in a position to make a recommendation at the time the site was selected. They said, "We have not had time to study it."

Then, when they did have time to study it, in early 1952, apparently they agreed, with some reservations, that the site should be changed.

I am inclined to think the engineer who was in charge should come down, even though he does agree with the conclusion.

Senator JACKSON. I would like to find exactly what went on as far as MIT was concerned, because the previous testimony, I believe by General Stoner or Dr. Compton, was that MIT had recommended it in 1951. He did not say whether it was in writing, or the means employed in making the recommendation, but it has troubled me a lot, because MIT is supposed to have a good reputation, and I am trying to find out what they did do.

Mr. GILLETT. From what has been said here, let me amplify my statement that I gather that the worst that could be said about MIT is that they allowed themselves to be stampeded into giving a preliminary opinion before they had time to make a thorough study of the data.

Senator MUNDT. What was this service that MIT rendered? Just a gratuitous service, they did for the State Department, or were they paid for it?

The CHAIRMAN. The total amount MIT got was $600,000. However, that was not only for this project. They were making other studies. We have asked for a breakdown so that we can give the committee a breakdown of how much MIT got strictly for this particular project.

Senator MUNDT. I think we ought to have somebody down here from MIT. After all, if they got a $600,000 fee, they must have made some kind of a recommendation. I have a high regard for MIT, and I cannot imagine them being stampeded into making an erroneous decision just to collect the fee. I think we should have somebody from that institution down here to find out what they did for the $600,000 fee. I thought it was $200,000 on this particular matter.

The CHAIRMAN. Senator, it is $200,000. We have asked for a breakdown, and it always takes some time between the asking and the getting.

Senator MUNDT. I mean, I do not think we can be at the moment too critical of the State Department people, unless it is the fact that they awarded a $600,000 fee. But if they got the report from a reputable institution and got bum advice, let us find who is responsible for the bum advice. If, on the other hand, the State Department went ahead and anticipated the decision and moved in before it, that is a different question.

Senator JACKSON. Maybe we have a cause of action that Harvard can bring against MIT.

The CHAIRMAN. Let me say to Senator Mundt that while MIT is a very reputable institution, they apparently have had no background on propagation studies. As Mr. Gillett said, it is like a large department store. Many departments are excellent. Maybe 90 percent of them are excellent. But some departments are not too well equipped to do a certain task.

Senator JACKSON. Might I ask this one other question while we are on the MIT subject? I wonder if we could ask the Voice people or the Department of State people, whoever has jursdiction, to get all of the memoranda that may have passed between the Department and MIT; letters, memoranda of every kind.

The CHAIRMAN. We have asked for not only that but the entire Kaplan file. Indications are that everything having to do with the

MIT work went through Mr. Kaplan, across his desk. We have asked for his file. I understand that is not classified, and I assume we will get it.

And I may say for the benefit of the committee: I was in New York Saturday taking evidence, interviewing witnesses, on this alleged Kaplan suicide. I found that he had phoned his office about 5 o'clock the day he was killed and appeared to be perfectly normal. He said he was going to stay overnight, that he had more work to do. He asked that his travel orders be extended. He had discussed, according to the witnesses the fact that he might be called by this committee; indicated no fear of being called; in fact indicated that he was anxious to come down and tell what he thought the real story to be. His coworkers—we had one of them under oath, took lengthy testimony, and others were interviewed—to a man said they didn't believe he committed suicide.

Senator JACKSON. How long was that before the accident, before his death, this call?

The CHAIRMAN. The call was about 5 o'clock in the afternoon. I do not recall what time of the night he was killed. He was killed after a meeting with some of the MIT engineers, a meeting on the question of a report, I understand. Now, counsel has been getting in touch with the engineers to find out what occurred at that meeting. We have not gotten that yet. The police department has asked that we submit all information we had to them. We intend to do that.

Mr. COHN. Two things, Mr. Chairman. First of all, we have considered this cable that was sent to the Voice of America, here, but we have not considered the reply, dated June 21, 1951. I will not read it, because of Mr. Leahy's request, but I would like to submit it to you and the members of the committee and paraphrase it by saying that the Voice of America here took the position: Don't bargain with the British to get permission, because the difference between 400 and 900 is not enough to bother continuing negotiations; the only difference is a reduction of effectiveness of 10 percent.

Is that inaccurate?

Mr. GILLETT. I think it said a signal strength of 10 percent.

Mr. COHN. Yes, "to the east," I believe were the exact words.

Mr. GILLETT. The measurements show a reduction of 20 percent and exactly what I computed on the characteristics of the antenna.

The CHAIRMAN. May I put the content of this in the record?

This was a message signed "Acheson." Would that be Dean Acheson, do you know?

Mr. COHN. I think it probably might be, Mr. Chairman.

The CHAIRMAN. It, in effect, says, No. 1, the difference in value between the 400-foot tower and the 900-foot tower doesn't justify negotiating to get the British to consent to the 900-foot tower, and it says that the difference between the 400-foot tower and the 450-foot tower is of no importance, and therefore the 400-foot tower should be used. It is signed "Acheson."

Actually, as I understood your testimony, there was a 450-foot tower available there at that time?

Mr. GILLETT. Which was bought for this installation as a reflector.

The CHAIRMAN. It was there on the ground.

Mr. GILLETT. Yes. It was bought for this job and had been delivered.

The CHAIRMAN. So that there was no reason on earth to get a 400-foot tower from Salzburg——

Mr. GILLETT. Well, they had to have a reflector, sir. If they used the reflector as the main antenna, they had to get a second antenna from somewhere, so they took the easier course, though it was a very much less efficient antenna because of different construction.

The CHAIRMAN. I am talking now about Acheson's recommendations to use a 400-foot tower instead of a 450-foot tower. Actually, the sensible, logical thing to do, if you were cutting it down to 450 feet, was to use your 450-foot tower and then get this other tower as a reflector.

Mr. GILLETT. Yes, though the reflector actually has about 30 percent less radiation efficiency than the 450-foot.

The CHAIRMAN. Just one other question, to clear up some of the questions asked by Senator Symington. Your testimony is that the 900-foot tower could easily have been reduced to a 650-foot tower; that everyone concerned had no serious objection to 650 feet; that this was not done because those in charge said, "We do not know how to reduce the 900-foot tower to 650 feet."

Mr. GILLETT. It was done, and at least one reason alleged was that they didn't know how to reduce the tower from 900 feet to 650 feet.

Senator MCCLELLAN. May I ask a question? We have talked about the effectiveness of the 900-foot and the 450 foot antennas. What would be the result of reducing it to 650 feet?

Mr. GILLETT. I have a map, if you are interested. It salvages about half what is lost in signal strength and about two-thirds of what is lost in quality impairment.

Senator MCCLELLAN. In other words, the 650 would have reduced the total loss to about one-third?

Mr. GILLETT. No; it would have only lost 10 percent instead of 20 percent of signal strength, and instead of losing in the 150 to 600 miles perhaps three-quarters of the intelligibility and usefulness, it would have lost perhaps 20 percent or 30 percent.

Senator MCCLELLAN. So it would have been far more desirable, according to your views?

Mr. GILLETT. It was much nearer in performance to the original design than the one that was used. In other words, it was about two-thirds of the way back from what they used to what was designed.

Senator MCCLELLAN. How do we know the British would not have objected to a 650-foot tower?

Mr. GILLETT. I was told by the CAA and by Mr. Moffly, who was the head of the service, that they had been offered approval of the 650.

Senator MCCLELLAN. Well, you got approval. You had complete approval of the 900 before the thing started.

Mr. GILLETT. I mean after the air attaché had objected, they had offered 650-foot approval. Because, you see, the 650-foot tower is below the glide angle that will clear the trees on the hills behind.

Senator MCCLELLAN. So there could not have been any valid objection to the 650.

Mr. GILLETT. None whatsoever. It is definitely below the glide angle that would clear the trees right behind it. You would have to come over the mountain and go [indicating steep descent] to hit it.

Senator MCCLELLAN. I just thought as a matter of record here, since

we had mentioned this 650-foot possibility in here, we ought to have a little information on that.

Senator SYMINGTON. I would like to ask you a question. If you go from 900 feet to 650 feet, how much do you lose, roughly, in percent?

Mr. GILLETT. I can give it to you exactly.

Senator SYMINGTON. Well, just rough. You gave it rough before. Give it rough again.

Mr. GILLETT. Well, let me get the values. Because I have them worked out here.

Senator SYMINGTON. I would just as soon take it rough. I do not want to hold the hearing up or bother you.

Mr. GILLETT. It won't take a minute. We have seen what comes of quoting too much too quick.

The CHAIRMAN. That is all right. Take your time. This is important enough to get the accurate picture.

Mr. GILLETT. The 900-foot tower would have a radiation efficiency of approximately 300 millivolts for 1 kilowatt.

Senator SYMINGTON. Put it in percentage. You did it before. We all know percentages now.

Mr. GILLETT. The 650-foot tower would have a radiation efficiency equivalent to 265 millivolts, which would be a reduction in field strength to 78 percent of the higher tower, or a reduction in the radiation—I beg your pardon. It would reduce the field strength to 89 percent of what it would have been and would reduce the radiation efficiency, therefore, to 78 percent.

Senator SYMINGTON. Well, what were you talking about before? which efficiency?

Mr. GILLETT. Well, the field strength is this map. All right. The 450-foot——

Senator SYMINGTON. Wait a minute, now. I asked you to go from 900 to 650. What percent do you reduce the efficiency?

Mr. GILLETT. You reduce the field strength 11 percent, and you reduce the radiation efficiency 22 percent.

Senator SYMINGTON. Which were you talking about before?

Mr. GILLETT. I was talking about both, but mainly of field strength.

Senator SYMINGTON. You mentioned a reduction of 30 percent. What did you mean by that?

Mr. GILLETT. Radiation efficiency.

Senator SYMINGTON. The radiation strength. I do not want the figures. Just a rough percentage estimate as you did before.

Senator MUNDT. Let us get the figures, and then another engineer can also compute them.

The CHAIRMAN. May I say that the witness has attempted to give us exact figures, has made computations, and as long as he has them there, I think he should be permitted to use his notes and give us the entire picture.

Senator SYMINGTON. All right, Mr. Chairman.

Mr. GILLETT. The 450-foot tower would have a radiation efficiency equivalent to 245 millivolts or 1 kilowatt, which is 18 percent less in field strength than the 900, and a radiation efficiency which is 33 percent less. The 33 is on a power basis. The 400-foot tower——

Senator SYMINGTON. I beg your pardon. Would you just answer my question, which is: What reduction is there from 900 feet to 650 feet in percentage?

Mr. GILLETT. Eleven percent in field strength and 22 percent in power efficiency.

Senator SYMINGTON. Twenty-two percent in power efficiency. Now, suppose you go from 650 to 450. What percent do you reduce it there?

Mr. GILLETT. The reduction in the main tower to 450 feet is 8 percent in field strength, or 16 percent in power efficiency.

Senator SYMINGTON. That is a total now—we are up to 38 percent. Now, you say, going from 450 to 400 feet you had another reduction of 30 percent.

Mr. GILLETT. Well, just a moment. The reduction in field strength in going from the 450-foot tower as designed to the 400-foot tower as designed will reduce the field strength 16 percent and will reduce the power efficiency 30 percent.

Senator SYMINGTON. Thirty percent. So now we have reduced the power efficiency 68 percent, which leaves 38 percent. Right?

Mr. GILLETT. Well, you can't add them that way. They don't add. They multiply.

Senator SYMINGTON. In other words, what you are talking about is a percent of the residual left?

Mr. GILLETT. This is compound interest. You use so much percent——

Senator SYMINGTON. Of what you had left. I see.

Senator MUNDT. From the standpoint of a radio engineer who does not have a slide rule in his hand and does not understand these percentages, what counts from the standpoint of the listener—radiation or field strength?

Mr. GILLETT. Well, of course, they are the two ends of the streetcar, but what he hears is the field strength in ratio to the noise, so it is the reduction in field strength that actually reduces his listening quality. But, again, you see, that does not tell the whole story, because the reduction from the 450-foot tower to the 400 of the listenability at night is tremendous. Because one has a radiation of a much higher tower equivalent—we have cheated nature by the devices we used—and the other has essentially the radiation of a quarter-wave tower, which is notoriously bad for fading. That is the reason for the sharp drop of 16 percent between 450 feet and 400. It is because we have changed the entire type and construction of the acceptable to the FCC.

The CHAIRMAN. Mr. Counsel, you had another matter you wanted to go into.

Mr. COHN. Yes; very briefly, Mr. Chairman.

Do you know whether the Voice of America has had any megawatt medium-wave broadcast transmitters constructed?

Mr. GILLETT. It is common knowledge in the industry that they have had several built by Welden & Carr.

Mr. COHN. Now, can transmitters of such power be used in Europe or the Far East?

Mr. GILLETT. Well, In Europe it is practically impossible to find a frequency in the medium waves which is not already occupied by stations in Western Europe, and neither by decency or international agreement or diplomatic possibilities is it possible to use any power like that on these frequencies without totally destroying the service of the existing stations in one or the other of the various countries of

Europe. For instance, the Courier has operated only with 40 kilowatts, because of interference to the Swedish channel, on the best channel they could find, which is a quarter of the rated power.

Mr. COHN. What type of antennas should be used with such higher power?

Mr. GILLETT. Well, the FCC regards the value of the frequencies on which high power can be used as so much that they will not permit a quarter-wave tower to be used with a 50-kilowatt station. They set up requirements that are approximately just short of a half-wave antenna as the minimum antenna which they will permit to be used as the minimum standards of good engineering practice, not the best standards but the minimum standards of good engineering practice acceptable to the FCC.

Mr. COHN. Do you know why the Voice has gone ahead with these megawatt medium-wave broadcast transmitters in view of this?

Mr. GILLETT. Well, it is my understanding that they now have 9 in prospect, 5 delivered. It is my understanding that they have started construction on two, for which they haven't even got frequency clearance yet, and that not in Europe. And I don't believe that any of them can be used. It is my understanding that they plan to use quarter-wave antennas, whereas we developed economic studies some 10 years ago that if you have the problem of laying down the most signal for the least money at any given point, you should spend somewhere between once and twice the transmitter cost on the antenna system, whereas a megawatt transmitter costs about $900,000, and the generators to supply the power cost about $600,000 more, and the buildings and equipment and housing will cost you, in construction, three or four hundred. You have about 2 million tied up. And the present plans, I understand, are to spend about fifty or sixty thousand on the antenna system for some short quarter-wave sticks.

Mr. COHN. What is the total amount of money involved in this? Do you know?

Mr. GILLETT. About 15 or 20 million bucks.

Mr. COHN. And you say it is virtually impossible to use these in Europe under the present frequency setup?

Mr. GILLETT. That is right. That is like putting a Cadillac high-powered engine in a Crosley frame. They just don't go together.

Mr. COHN. Can you give us any explanation as to why they are doing this?

Mr. GILLETT. I don't know. The whole basis of efficiency has been explained and spelled out in words of one syllable in articles, as I say, and as far back as 1936 we have had in operation for one of our clients a 900-foot tower in Oklahoma City for which the measured performance was 1-percent distant from the predicted. It is used with a directed antenna very similar in some characteristics to what we proposed to use there.

The CHAIRMAN. In other words, your testimony is that there is no reason for any intelligent radio engineer to make this mistake, the mistake of embarking on this 15 or 20 million dollar project?

Mr. GILLETT. Without providing adequate antennas, and without having the frequencies in the spots at which they are to be used. You don't buy million-dollar transmitters, or at least industry doesn't, as a speculation, in lots of a half a dozen, before you even know where you are going to use them or whether you can ever get frequencies to

use them or whether you can get frequencies on which to use more than a portion, an infinitely small portion, of the total power.

Senator JACKSON. Who recommended this program?

Mr. GILLETT. That I don't know.

The CHAIRMAN. I assume the chief engineer would have to pass on it.

Mr. GILLETT. Oh, undoubtedly. At least, I assume they don't spend 15 million bucks without the chief engineer having approved.

The CHAIRMAN. Let me ask you this. And it may not require any answer. We have had testimony that the chief engineer of the Voice, Mr. Herrick, had taken 1 year of preengineering work; that he had either flunked or got D's in all courses except public speaking. Would you think that that might possibly explain some of the unusual activities?

Mr. GILLETT. Well, it explains what the impression was that I got from him in talking to him.

The CHAIRMAN. In other words, a likeable fellow but not equipped for that particular job.

Mr. GILLETT. Well, in view of his attitude toward the work I had planned, I didn't even find him likeable.

Senator SYMINGTON. Mr. Gillett, have you ever made a mistake?

Mr. GILLETT. Sure.

Mr. COHN. But you have been right once in a while, haven't you, Mr. Gillett?

Mr. GILLETT. Enough that very few of the engineers in the industry tangle with me on engineering facts.

The CHAIRMAN. I found a Senator tangling with you today.

Senator SYMINGTON. When they tangled with you, they probably lost, did they not?

Mr. GILLETT. More than half the time.

The CHAIRMAN. We have in the audience, I understand, a Mr. Cupps, C-u-p-p-s, who is the construction engineer on the Vienna project. Is that correct, Mr. Cupps? And I understand you have brought with you someone whom you consider an expert on wavelengths, Mr. Ross.

I wonder if I could impose upon you gentlemen to come forward. I would like to have all three of you here.

Will you gentlemen both raise your right hand?

In this matter now in hearing before the committee, do you solemnly swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. CUPPS. I do.

Mr. ROSS. I do.

Mr. CHAIRMAN. Mr. Cupps, C-u-p-p-s?

TESTIMONY OF HALBERT CUPPS, ENGINEER, VOICE OF AMERICA, ASSIGNED TO USCOA; AND JULIUS ROSS, ACTING CHIEF, ENGINEERING DIVISION, VOICE OF AMERICA

Mr. CUPPS. C-u-p-p-s.

The CHAIRMAN. And your first name?

Mr. CUPPS. Halbert, H-a-l-b-e-r-t.

The CHAIRMAN. When you gentlemen speak, I wonder if you would try to get as near to the mike as you can and lean in when you talk.

And what is your position with the Voice, if any?

Mr. CUPPS. At the present time, I am on detached assignment doing the construction work for USCOA, United States Commissioner for Austria, in Vienna.

The CHAIRMAN. How long have you been on that particular job?

Mr. CUPPS. I have been there exactly 2 years, and I have now returned on home leave, en route to my destination in Florida.

The CHAIRMAN. And prior to taking over this task, what was your job?

Mr. CUPPS. I was assigned to the Voice of America relay base in Munich, Germany, acting chief engineer.

The CHAIRMAN. Where did you get your engineering training?

Mr. CUPPS. I am not a graduate engineer.

The CHAIRMAN. I assumed you were not, because it seems if you are a graduate engineer you don't qualify with the IIA or the Voice. Of course, we understand that many good engineers never have had a formal engineering training at school.

Did you take any training at any school of engineering?

Mr. CUPPS. I was connected with Western Electric Co., and took the Bell System courses available to us during employment with them.

The CHAIRMAN. Where was that taken.

Mr. CUPPS. In Cleveland, Ohio.

The CHAIRMAN. In Cleveland, Ohio. Was that connected with any university or college?

Mr. CUPPS. No, sir.

The CHAIRMAN. How long was that course?

Mr. CUPPS. That was approximately 2 years.

The CHAIRMAN. 2 years full time in school?

Mr. CUPPS. No, this was on-the-job training.

The CHAIRMAN. In other words, while you were working for Bell?

Mr. CUPPS. That is correct.

The CHAIRMAN. You took some training on the side?

Mr. CUPPS. That is correct.

The CHAIRMAN. I see. And will you just sort of describe that training for us?

Mr. CUPPS. It was connected with telephone work, the installation of central-office equipment, switchboards, automatic exchanges, and basic equipment connected with the telephone industry.

The CHAIRMAN. When was this training received?

Mr. CUPPS. That was between 1936 and 1938.

The CHAIRMAN. 1936 and 1938. You were working for Bell Telephone Co. then?

Mr. CUPPS. Western Electric.

The CHAIRMAN. Then will you sort of trace your employment from 1938 up to date, if you would?

Mr. CUPPS. Following that, I was connected with American Airlines.

The CHAIRMAN. What type of work?

Mr. CUPPS. Communications work, stationed at Buffalo and at Cleveland, Ohio.

The CHAIRMAN. How long were you with American Airlines?

Mr. CUPPS. 2 years.

The CHAIRMAN. May I ask: Were you discharged or did you resign from that job?

Mr. CUPPS. I resigned from the job and went with the United Broadcasting Co. in Cleveland, Ohio.

The CHAIRMAN. United Broadcasting Co. in Cleveland.

Mr. CUPPS. In Cleveland, Ohio, as a staff engineer.

The CHAIRMAN. What were your duties as staff engineer?

Mr. CUPPS. My duties as staff engineer were in master control, studio work, and transmitter work.

The CHAIRMAN. I see. And how long did you stay with that broadcasting company?

Mr. CUPPS. I left there after approximately 9 months to take a job with the General Motors Corp. at Fisher Body plant No. 2.

The CHAIRMAN. What type of work were you doing with General Motors?

Mr. CUPPS. I was doing electronic work in plant engineering, a large defense plant, connected with radio and aircraft radio installations.

The CHAIRMAN. And then from there where did you go?

Mr. CUPPS. I was recruited by the Department of State, or OWI, as such, for psychological warfare.

The CHAIRMAN. Who recruited you?

Mr. CUPPS. I do not recall the gentleman's name.

The CHAIRMAN. You do not remember who recruited you?

Mr. CUPPS. Not the name of the individual.

The CHAIRMAN. Will you describe where that recruiting took place? Did someone come out to see you?

Mr. CUPPS. I attended an institute meeting of Cleveland Radio Engineers at which Morey Pierce, presently employed by the Department of State made an address.

At that time I expressed interest in the work, and following that I was recruited and assigned to Honolulu.

The CHAIRMAN. In other words, they asked you to come with OWI?

Mr. CUPPS. That is correct. I was actively employed prior to that with General Motors.

The CHAIRMAN. And what year was this?

Mr. CUPPS. That was in the early part of 1945.

The CHAIRMAN. Who was your immediate boss?

Mr. CUPPS. In Honolulu?

The CHAIRMAN. Yes.

Mr. CUPPS. Mr. Herrick.

The CHAIRMAN. Who was in charge of the desk having to do with the Pacific at that time?

Mr. CUPPS. In what category, engineering or just Western Pacific?

The CHAIRMAN. Give us both.

Mr. CUPPS. I don't know.

The CHAIRMAN. You don't know?

Mr. CUPPS. I would assume that Mr. Herrick was in charge of engineering at that time, but as far as Western Pacific Affairs, I do not know.

The CHAIRMAN. That was OWI?

Mr. CUPPS. That is correct.

The CHAIRMAN. Mr. Owen Lattimore was in charge of Pacific Operations of OWI at that time; was he not?

Mr. CUPPS. I have no knowledge of that.

The CHAIRMAN. You do not know who the boss was?

Mr. CUPPS. No, sir.

The CHAIRMAN. How long were you with OWI?

Mr. CUPPS. I have been with them continuously since that time. During the transition period is when I was absorbed into State.

The CHAIRMAN. Were you not with the Signal Corps for a short time?

Mr. CUPPS. No, sir.

The CHAIRMAN. Were you not with the Signal Corps for about 2 months?

Mr. CUPPS. No, sir.

The CHAIRMAN. You never were with the Signal Corps?

Mr. CUPPS. No, sir.

The CHAIRMAN. Have you heard all of the testimony of Mr. Gillett?

Mr. CUPPS. I have.

The CHAIRMAN. And your name is Ross?

Mr. ROSS. Yes, sir; Julius Ross.

The CHAIRMAN. Where do you work?

Mr. ROSS. At the present time I am acting Chief of the Engineering Division in New York. I have just been assigned that position.

The CHAIRMAN. You served under Mr. Herrick, did you?

Mr. ROSS. Yes, sir.

The CHAIRMAN. And you are now Acting Chief of the Engineering Division?

Mr. ROSS. Yes, sir.

The CHAIRMAN. I thought Mr. Seymour was Acting Chief.

Mr. ROSS. Mr. Seymour is Chief Engineer. There are two divisions under his direction, the Engineering Division and the Construction Division.

The CHAIRMAN. And you are Acting Chief of which?

Mr. ROSS. The Engineering Division.

The CHAIRMAN. Did you have anything to do with the Baker West location?

Mr. ROSS. Personally my activity in connection with Baker West was directly in the making of the survey for the purpose of locating the plant in the northwest area of the country. I took part in making the survey to locate the specific site. I was directed to do so by Mr. Herrick.

The CHAIRMAN. Let me ask you this: Did you have anything to do with locating it in that general area, or did you merely pick the site after a decision had been made to locate it in the Washington State area?

Mr. ROSS. I picked the specific site after the decision had been made.

The CHAIRMAN. Did you enter into the making of the decision as to the general area?

Mr. ROSS. I took part in some of the discussions which led up to that decision.

The CHAIRMAN. We have had the head of the Propagation Section of the Bureau of Standards testify that neither the Voice nor the IIA ever asked for an opinion from the Bureau of Standards. Can you tell me whether that is correct or not?

Mr. ROSS. I believe that the Bureau of Standards was requested to submit certain data, which they did, which in turn was turned over to MIT, and which was used in making up MIT's evaluation.

The CHAIRMAN. You say you believe that. The sworn testimony is to the contrary, so if you have anything which will help us decide whether that is true or not, we would like to hear it.

Mr. Ross. My belief is based on my recollection of having seen documents that indicated that. I do not have copies of those documents here.

The CHAIRMAN. We have asked for such documents, and were informed that no such documents were available. Would that change your mind at all?

Mr. Ross. I may be mistaken. The only way I could tell would be to examine the files.

The CHAIRMAN. Do you know why, instead of getting that information from the Bureau of Standards, which was well equipped to make this propagation study, and getting it free, it was decided to employ MIT at a total cost of around $600,000 for this and other projects, or did you enter into that decision?

Mr. Ross. I did not enter into that decision, but I do not believe we could have obtained that service at no cost. We would have had to reimburse the Bureau of Standards. It is customary practice.

The CHAIRMAN. The Bureau of Standards has testified to the contrary. On what do you base your statement that you would have had to reimburse them?

Mr. Ross. We have had work done by other Government agencies, and vice versa, and we have supplied material for which we have been reimbursed.

The CHAIRMAN. I am talking about the Bureau of Standards. That is the agency that is set up to do this particular type of work for other departments. The Bureau of Standards has told us that this would cost you nothing, that they were ready and able to do this job, but that they never were requested to do it.

As I recall the testimony, they said they were curious to know why they had not been requested to do it when they heard that MIT was doing it. In view of that do you still say you would have had to pay them for it?

Mr. Ross. I am not competent to state the exact facts in the matter.

The CHAIRMAN. I may say that this committee asked the Bureau of Standards for a propagation study insofar as Baker West was concerned. We got that preliminary report in a matter of days, and I believe we have gotten no bill for it yet.

I may say, also, that the staff informs me that this is one of the few engineers they found in the Voice or IIA who has had a good educational background as far as engineering is concerned.

Senator SYMINGTON. May I ask a question of Mr. Cupps?

The CHAIRMAN. Certainly.

Senator JACKSON. Could we have briefly that statement on his engineering background first?

Mr. Ross. Yes, sir. My background runs something like this. I graduated from the Brooklyn Technical High School in 1928, studied at Cornell University in the School of Electrical Engineering for 2 years, then came the crash and I was forced to leave school and I went to work. Finally, I worked my way through and graduated from the Polytechnic Institute of Brooklyn in 1937. My experience in the field dates back to roughly starting in 1933, approximately 20 years of

increasing responsibility. Thirteen years of my service has been with the Government, 5 years with the Federal Communications Commission, and the remaining 8 years with the Office of War Information and the IIA and the various alphabetized versions of it which occurred in between.

My experience in private industry has been with the Federal Telephone & Radio Corp., as project engineer, with the Pilot Radio Corp., with Hearst Radio, Inc., which is a broadcasting station. It was WINS, in New York, in which I served as station engineer and took part in the making of site surveys for the relocation of the transmitting plant, and did some design work and considerable operating work.

The CHAIRMAN. Were you called upon to concur in the decision on Baker West?

Senator SYMINGTON. Mr. Chairman, could I ask a question of Mr. Cupps?

The CHAIRMAN. Yes; but could you answer that one first?

Mr. Ross. I was present at the discussions and at the time the decision was made I concurred with it.

The CHAIRMAN. Had you ever made any propagation studies yourself?

Mr. Ross. No, sir.

The CHAIRMAN. Did you discuss with any of the other engineers the effect that this magnetic storm belt, or the so-called auroral absorption area, might have on the signal which you could transmit to the target area from this particular site?

Mr. Ross. Yes, I did. I discussed it with almost every responsible member of the staff at one time or another.

The CHAIRMAN. Every responsible member of the staff? How many engineers do you have on the staff?

Mr. Ross. At the time that took place, my recollection is that we had a staff of about 20 engineers.

The CHAIRMAN. Do you agree now that Baker West was located in the wrong area?

Mr. Ross. On the basis of some of the statements I have heard, I think that if I were starting fresh, I would be inclined to put the station in California. However, on the basis of the circumstances that exist today and the lack of complete and detailed data to support many of the statements which have been made, together with certain other factors which have to do with the cost of power, for example, and the fact that we would be operating the Baker West plant in conjunction with plants already located in the South, I have a very large question in my mind as to the wisdom of changing the decision at this time.

The CHAIRMAN. I have a report from the Bureau of Standards, dated February 26, 1953. Have you seen this report?

Mr. Ross. No, sir; I have not.

The CHAIRMAN. I might suggest that it might be well for the IIA engineers to have my staff give you a copy of this in view of the fact that you have not asked for one yourself up to recently. This is available to you. It consists of a 3-page summary, with exhibits 1 to 28. Let me read one paragraph:

> General conclusions can be drawn from the results so far obtained. To assure delivery of a satisfactory signal at a given time of the day on at least 10 percent of the days, a transmitter at Seattle would require about 5 times as much power

as a transmitter at San Francisco or San Diego. To assure a satisfactory signal for a given time of the day on at least 50 percent of the days, a transmitter at Seattle would require about 15 times as much power as a transmitter at San Francisco or San Diego. To deliver a satisfactory signal on at least 90 percent of the days, at a given time of the day, a transmitter located at Seattle would require about 50 times the power of a transmitter at San Francisco or San Diego.

When you made the statement that the cost of power was one of the considerations that you had in mind when you decided that maybe we should stay in Seattle, I wonder if you were aware of the Bureau of Standards report which says it would take 50 times as much power at certain times of the day, 90 percent of the days, at Seattle to hit the same target?

Let me ask you, first, would you question this conclusion, and, secondly, would that change your opinion as to whether or not these stations should be moved?

Mr. Ross. I would not be in a position to question the conclusion without examining the data on which the conclusion is based. However, on the basis of actual practical experience, which at least one of our engineers has had carrying out monitoring activities on the west coast during the war in connection with radio intelligence activities, he has reported that as a practical matter these phenomena do not exist to that degree.

The CHAIRMAN. Who is that engineer?

Mr. Ross. Mr. Jean Seymour.

The CHAIRMAN. He is the man who took over Herrick's job?

Mr. Ross. No, sir. Mr. Frank L. Seymour is the man who took over Herrick's job.

The CHAIRMAN. Was this the man who was the engineer on the *Courier* project?

Mr. Ross. Yes, sir, he is the same engineer.

The CHAIRMAN. You are aware of the fact that the testimony is to the effect, first, that the wrong kind of a ship was selected, one that did not have a hull strong enough to carry the diesel engines so that it had to be rebuilt; secondly, while there were ships in mothballs with flight decks, one was selected without a flight deck and one was built on it at an additional cost of about $1 million. Are you aware of that background of Mr. Seymour? I wonder if you think that qualifies him as an expert?

Mr. Ross. I have not read that testimony.

The CHAIRMAN. Mr. Symington, you had some questions to ask.

Senator SYMINGTON. I would like to ask, Mr. Cupps, when did you go to work?

Mr. CUPPS. With the Department?

Senator SYMINGTON. When did you first start working?

Mr. CUPPS. 1936.

Senator SYMINGTON. Doing what?

Mr. CUPPS. With Western Electric.

Senator SYMINGTON. What was your schooling up to that point?

Mr. CUPPS. Just high school, sir.

Senator SYMINGTON. If you could have afforded it, would you have gone along to college?

Mr. CUPPS. I certainly would have.

Senator SYMINGTON. But you could not afford it?

Mr. CUPPS. At that time I couldn't.

Senator SYMINGTON. Were you married?

Mr. CUPPS. No, sir.

Senator SYMINGTON. Were you supporting anybody besides yourself?

Mr. CUPPS. No, sir.

Senator SYMINGTON. Did you ever hear of Henry Ford?

Mr. CUPPS. Yes, sir.

Senator SYMINGTON. Do you know whether he was an engineering graduate or not?

Mr. CUPPS. I believe he wasn't.

Senator SYMINGTON. He was pretty successful, was he not?

Mr. CUPPS. Yes, sir.

Senator SYMINGTON. Did you ever hear of Thomas Edison?

Mr. CUPPS. Yes, sir.

Senator SYMINGTON. Do you know whether he was a graduate or not?

Mr. CUPPS. He wasn't.

Senator SYMINGTON. Did you ever hear of Bill Knudsen, the president of General Motors?

Mr. CUPPS. I heard of him.

Senator SYMINGTON. Do you know whether he was a graduate or not?

Mr. CUPPS. No, sir.

Senator SYMINGTON. I know he was not, because he told me he went to work at the age of 12.

Mr. CUPPS. I am not ashamed of the record I made.

Senator SYMINGTON. I would not be ashamed of not being a graduate, as long as you are doing the best you can as an American.

Mr. CUPPS. I am not ashamed.

Senator SYMINGTON. Do you feel you have a right, regardless of your education, to take the best job you can get in support of yourself and your family?

Mr. CUPPS. Yes, sir.

Senator SYMINGTON. And when you could get a job in this engineering division, were you asked to decide theoretical matters or were you asked to decide practical matters?

Mr. CUPPS. I should say it involved some of both, based on my capabilities which have gradually expanded as a result of practical experience I obtained.

Senator SYMINGTON. So you did the best you could under the circumstances?

Mr. CUPPS. I continue to do the best I can.

Senator SYMINGTON. Good luck to you.

The CHAIRMAN. Mr. Symington, may I say we have not criticized Mr. Herrick, the chief engineer, who could not pass an engineering course. We do not blame him for taking the job he took. We have found as a result of having that type of chief engineer millions and millions of dollars were wasted. He may be the finest family man in the world, I do not know. I do not criticize this young man for not having an engineering education. I took 2 years of pre-engineering work; I found it too difficult. I shifted to law. I am not ashamed of that. However, I am not chief engineer in any project. And we do not blame you for taking the best job you can get.

I do blame top officials who pick men without engineering backgrounds to do an engineer's job. We are spending millions and

millions and millions and millions of dollars, trying to build up a good Voice program. I think we are entitled to the best engineering, and it would be very economical, I think, to hire better engineers even if we had to pay more money and save some of these millions. I think it should be clear from my questioning that we are not criticizing you for getting the best job you can get. If you can get the job as chief engineer at IIA at a higher salary, I assume you would take it. I sincerely hope you do not get that job. There are many jobs you can do very well. You appear to be a very fine, intelligent young man who can do a lot of jobs.

Senator SYMINGTON. Mr. Chairman, my only point was to bring out the fact that one man who had a chance to get an engineering education flunked out, while the other fellow could not get an education because he could not afford it.

The CHAIRMAN. I think it is clear we are not criticizing anybody for their education or their lack of education. But when I find a chief engineer who can pass no course except public speaking in charge of millions of dollars of spending, when I find he has mislocated one project which has already cost us millions of dollars, then I am concerned with the engineering qualifications of the other engineers on that job, and that is no criticism of these young men.

Mr. CUPPS. I would like to point out, Mr. Chairman, that my position as installation engineer did not involve engineering decisions of the type you are speaking of. But I do have many pertinent facts upon which these decisions may have been based which I would like to bring out to this committee.

The CHAIRMAN. The reason you have Mr. Ross with you is that while you do not consider yourself an expert on the sort of thing Mr. Gillett was covering, you do consider Mr. Ross somewhat of an expert on that subject?

Mr. CUPPS. Since Mr. Ross is from the engineering office which backstopped my project in Austria, I feel he is in a better position to outline the facts leading up to the decisions that resulted in the change in the antenna system design in Vienna.

The CHAIRMAN. I would like to ask Mr. Ross and Mr. Gillett and you to come up to this chart, if you will.

Let me point out to you gentlemen that Mr. Gillett has testified that if you put the tower in Vienna as proposed by the Army, you would get rather excellent coverage up to this line No. 1 [indicating]. Do you have any disagreement on that?

Mr. CUPPS. I would like to make a statement at this time without interruption.

The CHAIRMAN. May I say that we do not guarantee any witness the right to make any statement without interruption. If there is some point you raise that we would like to question you, or any other witness, about, we will interrupt you.

Mr. CUPPS. This map was prepared by Mr. Gillett. It gives no indication of the interference to be expected from stations operating on the same channel, which will materially reduce the coverage as presented by Mr. Gillett.

Our chief source of interference is a station at Timisoara, Rumania, on the same frequency, three-hundred-some-odd miles from Vienna, which seriously will distort the presentation of the pattern of field coverage prepared by Mr. Gillett.

There is another station in Kuopio, Finland, which will further attenuate the signal as prepared by Mr. Gillett.

The CHAIRMAN. In other words you say there are two other stations on the same wavelength?

Mr. CUPPS. There are a minimum of two other stations on the same wavelength and we cannot expect to get this degree of service at the present time.

Senator SYMINGTON. Would the chairman yield?

The CHAIRMAN. Certainly.

Senator SYMINGTON. Is it not true, Mr. Cupps, that a station with less volume would be relatively more effective because it would not reach out to where there was the interference?

Mr. CUPPS. It then becomes a degree of power and directional antenna efficiency. We are not in a position to determine how much power the station in Timisoara, Rumania, is using, or the type of antenna they are using. Behind the Iron Curtain we cannot get that information. Therefore, it is all conjecture on our part with the information available to us.

The CHAIRMAN. Go ahead, Mr. Gillett.

Mr. GILLETT. May I ask, was Timisoara, Rumania, on the air at the time the antenna was cut down? It was not in the air in 1950.

Mr. CUPPS. That is true. Although it was not on the air, the premise on which the station was established was that they would not come on the air if we were on the air first. But they did come on the air, regardless of whether we used it or not.

The CHAIRMAN. That changes the picture somewhat. Mr. Gillett points out that the station at Timisoara, Rumania, was not on the air at the time the station in Vienna went on the air. You say that they agreed not to go on the wavelength if you went on first.

Mr. CUPPS. I did not say that, sir. That was the assumption Mr. Gillett used in deciding to use that frequency.

The CHAIRMAN. What assumption did you follow?

Mr. CUPPS. I followed none, except to build the station as directed.

The CHAIRMAN. When you built that station, what wavelength did you think you were going on?

Mr. CUPPS. I knew what I was going on. I was following the preconceived plan of Mr. Gillett with departmental approval.

The CHAIRMAN. You say you were assigned these wavelengths at the Copenhagen agreement?

Mr. CUPPS. I say that Timisoara, Rumania, was assigned 755 kilocycles.

The CHAIRMAN. When did we get that wavelength assigned to us, if at any time?

Mr. CUPPS. The wavelength as such, as used by the American element, was not assigned by the Copenhagen plan. It was used as a military expediency.

The CHAIRMAN. In other words, we are using a wavelength that had been previously assigned to Timisoara, Rumania?

Mr. CUPPS. And other stations.

The CHAIRMAN. Let me ask you this, if you know anything about it. Do you feel that America has gotten a good deal in the international agreements reached at both Copenhagen and Mexico City as far as the assignment of radio frequencies is concerned?

Mr. CUPPS. I don't think the American interests were considered in the Copenhagen plan which assigned frequencies to Europe.

The CHAIRMAN. Did we have a representative there?

Mr. CUPPS. We did.

The CHAIRMAN. We took part in the discussions, did we not?

Mr. CUPPS. I can't answer that. We had someone there as a spectator.

The CHAIRMAN. Our interests were very largely affected at the Copenhagen meeting, were they not?

Mr. CUPPS. I believe they were.

The CHAIRMAN. And also at the Mexico City meeting?

Mr. CUPPS. I am not familiar with that.

The CHAIRMAN. Are you aware of the fact that we had a meeting at both Copenhagen and Mexico City which dealt with the assignment of wavelengths to the various nations in the world?

Mr. CUPPS. Yes.

The CHAIRMAN. Do you know who our representative was at either Cophenhagen or Mexico City?

Mr. CUPPS. I do not.

The CHAIRMAN. Would it surprise you to know that the man who represented us at Mexico City was William T. Stone, the man who was involved in the Amerasia case, the man who reported to Mr. Humelsine, who testified before the Appropriations Committee that he resigned from his State Department job after the loyalty review board took up his case; that Mr. Lewis, who represented us at Copenhagen, was the Charles Lewis who flunked the loyalty test when he and Mr. Kaghan and Mr. Schechter had applied to go with the Voice of America, and they could not pass the loyalty security test under Public Law 402?

Were you surprised to find those men as representatives of America at those meetings when our interests were vitally concerned?

Mr. CUPPS. I had no knowledge of that since my activity did not encompass that field.

The CHAIRMAN. That is not your field?

Mr. CUPPS. I am not qualified in that field.

The CHAIRMAN. But the efficiency of our program was perhaps vitally affected by the assignment to various nations of different wavelengths; is that right?

Mr. ROSS. Yes, sir; there is no question about that.

The CHAIRMAN. Then I assume you agree that our committee should go into the background of the individuals who represented us or misrepresented us at both Copenhagen and Mexico City?

Mr. ROSS. I see no reason why you should not.

The CHAIRMAN. In other words, it is a very important matter.

Mr. ROSS. Yes, sir.

The CHAIRMAN. To what extent would you disagree with the conclusions arrived at by Mr. Gillett?

Mr. CUPPS. I believe they are not a fair representation of the case.

The CHAIRMAN. Tell us in what respects.

Mr. CUPPS. Since they do not reflect the true conditions that would exist with the Copenhagen assignees operating on the frequencies so established by the overall plan.

The CHAIRMAN. Let us assume that you have the two stations you mentioned on the air. Would you take the position that a 450-foot

tower would be as effective and efficient from a listening standpoint as a 900-foot tower? If not, will you try to compare the two?

If you want to have the other engineer consult with you to answer that, go right ahead.

Mr. Ross. I would like to make one very simple statement on that in terms which a layman can understand very easily.

Mr. Gillett stated that a difference in field intensity under the two different conditions might amount to approximately 10 percent. Is that correct, Mr. Gillett?

Mr. GILLETT. I said 20 percent.

Mr. Ross. All right, let us make it 20 percent. In terms of decibels, that represents approximately a difference of 2 decibels to a listener's ear with a receiver.

The CHAIRMAN. You say you are putting that in layman's language?

Mr. Ross. I think it will be layman's language when I finish my statement.

Senator SYMINGTON. I might say that I can understand you myself. I think you are going pretty good.

Mr. Ross. I think it is a fundamental fact regarding the human ear that it is incapable of indicating a change of less than two decibels. I make this statement to show what relation this difference in field intensity in the listener's ear actually is.

Senator SYMINGTON. In confirming what the gentleman has said, I might say that I have made a good many sets with 80 decibels, a good many with 90 decibels, a good many with 100 decibels, and a good many with 110 decibels. I did not have any difficulty when I wanted to make radio sets. I am talking about the auditory band and not the radio band.

Mr. Ross. As a matter of practical demonstration, I think it can be shown very easily that unless you carefully listen it is rather difficult to detect a change in intensity of three decibels, which represents a power change of approximately twice. I think this should place the whole problem in the proper perspective.

The CHAIRMAN. I would like to have you gentlemen now tell us the difference, in your opinion, in the efficiency and the effectiveness of the 450-foot tower as compared to the 900-foot tower. Mr. Gillett has said that the shifting from the 900-foot to the 450-foot tower, in his opinion, effectively sabotaged any attempt to cover the vital target area. It is a very serious matter. Will you tell us how the efficiency was affected by the change?

Mr. Ross. The statement which I just made gives an index of how much difference it can make to a listener insofar as a signal intensity is concerned.

Furthermore, the original conception, insofar as the engineering office in New York was concerned regarding this, was that it was to be an Austrian network to provide programing for Austrians. The programs transmitted are all in German. As I understand it, IBS transmits approximately 6¾ hours of program on this network.

The CHAIRMAN. You mean that you are broadcasting to the Russians in the German language?

Mr. CUPPS. That is correct.

The CHAIRMAN. The Army originally planned a Voice station which could hit all the vital target area in Russia.

Mr. Ross. I had no knowledge of the original plan.

The CHAIRMAN. Do you think they were trying to build a 1,000-foot station to hit Austria?

Mr. ROSS. The information transmitted to us over the signature of Mr. Moffly in the form of a cable indicated to us that it was an Austrian network which was to be built for the purpose of covering Austria.

The CHAIRMAN. Mr. Gillett designed this plant.

Mr. GILLETT. Mr. Moffly was the IIA man in the State Department for Austria.

The CHAIRMAN. Mr. Gillett, this engineer states that he does not know the purpose of the station. When you designed it, did you know the purpose of the station?

Mr. GILLETT. The objectives that I read into the record were those approved by the High Commissioner and the others for the design which I prepared.

Mr. CUPPS. Under the Department of the Army.

Mr. GILLETT. Under the Department of the Army under which the State Department was to carry it out.

The CHAIRMAN. And the objective was to hit the target area in Russia and a target area as large as possible?

Mr. GILLETT. Yes. I might add that Timisoara, Rumania, was not on the air until the fall of 1951 insofar as the Timisoara, Rumania, station is concerned, it was felt that the signal from there was such that the station could not be heard intelligibly out of sight of the towers, a radius of 4 or 5 miles being the limit of its service, and it was believed the only use to be made of it was attempting jamming, and it was one more or less jamming station we had to deal with. It was not proven that this station could render any service to the area.

Mr. CUPPS. I would like to take exception to that. Among the reports made down in embassies of countries close to those targets, there are reports which indicate that Timisoara to some extent dominates the radio frequencies of that area.

The CHAIRMAN. I understand your purpose now is not to broadcast to Russia at all from that station, or you would not be beaming the broadcasts in the German language, is that correct?

Mr. CUPPS. In general I would say yes.

The CHAIRMAN. Originally the Army designed this to broadcast to Russia, that is, the 900-foot tower. Finally the State Department took over and they cut that down to 450 feet, and instead of beaming to Russia you are now beaming that to the German people, is that correct?

Mr. CUPPS. Not completely, because we are beaming it into the satellite countries in which there are areas of German-speaking people.

We did not cut down the 900-foot antenna to 450 feet without some basis in fact for so doing. I would like to expand on that if I may sit down.

The CHAIRMAN. You may sit down.

Mr. GILLETT. Mr. Chairman, the question has been raised that 2 decibels is not audible. Let me point out, first, that the Bell system, which makes the most auditory sets, has found that a half decibel can be heard by an expert and that 1 decibel can be heard by anyone. If 3 decibels does not count, why has the Voice of America spent $15 million for megawatt transmitters when they could have bought a half-megawatt transmitter for $500,000?

The CHAIRMAN. Would you like to answer that?

Mr. Ross. I would like to make a comment.

The CHAIRMAN. You answer that first. Mr. Gillett's question is this: He says the Voice could buy a transmitter for $500,000, but instead they are buying them for $2 million. The only difference between the 2 is 3 whatever you call it.

Mr. Ross. Three decibels. The only way I can answer that is to point out that in making power allocations, for example, the Federal Communications Commission in this country has the general practice of issuing licenses which carry power ratings usually at intervals of 6 decibels or higher. This phenomena of which I spoke is one of the basic reasons for it. In my opinion any change in the power of a station which is less than 10 decibels is not a profitable increase in power with a possible exception of that which might apply to primary coverage in the local area where you have noise.

The CHAIRMAN. Let me interrupt. I am afraid I do not follow your reasoning.

I understand it is true that the Voice has spent $2 million for a transmitter.

Mr. GILLETT. One megawatt.

Mr. Ross. That is not correct.

Mr. GILLETT. That is with associated equipment. The transmitter itself costs $900,000. It would cost approximately half that if you bought half a megawatt, or 500 kilowatts. The difference is 3 decibels.

The CHAIRMAN. The only difference is 3 decibels?

Mr. GILLETT. That is right.

The CHAIRMAN. How much is the Voice paying for the additional 3 decibels?

Mr. GILLETT. $450,000 for the transmitter, another $300,000 for the generators, and probably another $100,000 to $200,000 for additional housing for the bigger unit. So they are spending approximately half the total cost of the station for the additional power of 3 decibels, which does not seem to be worth it if it is only 3 decibels.

The Federal Communications Commission, incidentally, in these classes of stations licensed 5 kilowatts on class 1, 10, which is 6 decibels, 25, which is about 4 decibels, and 50 kilowatts, which is 6 decibels. As a regulatory matter they do license about every 6 decibels.

Mr. Ross. I would like to comment on the matter of why we built 1,000-kilowatt transmitters instead of 500-kilowatt transmitters. This argument all depends on what your point of reference is.

I would like to use 100 kilowatts as a point of reference and say I would argue for using a megawatt and obtain a 10-decibel increase in power which is an appreciable increase when you use 100 kilowatts as a point of reference.

I can twist this argument any way you desire by changing my point of reference.

The CHAIRMAN. We do not want you to twist it. We want you to give us the facts. Mr. Gillett has stated that the only difference between one transmitter and the other is the power of 3 decibels. In order to get the power of 3 decibels additional, the Voice is paying $800,000 or $900,000 more for transmitters. Is that roughly your testimony?

Mr. GILLETT. Yes.

The CHAIRMAN. Is that true or is that not true?

Mr. Ross. If we use the 500-kilowatt transmitter as a point of reference, that is correct. But I see no reason for that basic assumption. The transmitters currently in use prior to the inception of the use of megowatt power were all in the medium-wave field of 50 kilowatts and 150 kilowatts.

The CHAIRMAN. Can we simplify this into layman's language?

Do we both agree that the only difference between the transmitter that cost $500,000 and the one that will ultimately cost roughly a million and a half, or a little less than that, is that the million and a half dollar transmitter gives you a power of 3 additional decibels? Is that the only difference?

Mr. Ross. That is correct. I have no engineering dispute with that.

The CHAIRMAN. Then, as you say, if the power of 3 additional decibels is unimportant, that you should not change, as you say, until you get 10 additional decibels, why does the Voice waste the additional million and a half dollars to get the 3 additional decibels?

Mr. Ross. I stated before—and I believe Mr. Gillett will go along since he testified you can detect a half-decibel change—that I thought that 2 to 3 decibels provided possibly the first detectible increase in power to a lay listener. I think that is the point where you have got to consider what you are paying for.

The CHAIRMAN. You did tell us, I believe, that you feel that the change was unjustified unless you could get the power of 10 additional decibels?

Mr. Ross. I testified to that in relation to the problem of deciding what transmitter power should be used for a given installation, irrespective of other factors. This is a matter, for example, of installation X. Shall we put a 100-kilowatt transmitter there or a 1,000-kilowatt transmitter there? The difference at the receiving end is 10 decibels.

The CHAIRMAN. Let me ask you this. Mr. Gillett has testified that in an area starting about 100 or 150 miles from the transmitter, extending to an area roughly 650 miles from the transmitter, having reduced the transmitter from a 900-foot tower to a 400-foot tower, you have decreased the efficiency of the transmitter to the extent that you lose about 75 percent of your listeners during the night, which starts at about 3 o'clock in the afternoon and extends to about 10 o'clock the next morning in that area. Would you care to comment on that? Do you agree or disagree?

Mr. Ross. I will comment on it to this extent. When we took the original project over, as I stated, our primary problem was to provide an Austrian network for Austria. That is the basis on which we proceeded.

The CHAIRMAN. Mr. Ross, will you answer this question for me? We had a question raised here by Mr. Gillett. Here is what he told us. Now you listen to me. If I am incorrect, you correct me.

He said if you start at about 150 miles from the Vienna station and then you cover an area that runs up to 650 miles, that with the 450-foot tower, as compared to the 900-foot tower, you would lose about 75 percent of your listener audience at night. He described night in that area as running from 3 o'clock in the afternoon until 10 o'clock the next morning; is that correct?

Mr. GILLETT. In the middle of the winter, Mr. Chairman.

The CHAIRMAN. Do you agree or disagree with that statement?

Mr. Ross. I can't agree or disagree without examining his figures on the vertical patterns of those antennas.

The CHAIRMAN. In other words, you do not have any idea yourself on that?

Mr. Ross. I would agree that there is a reduction. What the percentage of the reduction is I cannot state at this time. I am not sufficiently experienced to judge. I do not consider myself an expert in the field of antenna design. However, I would recommend to the committee that Mr. Carl E. Smith, the man who did the design work on these antennas, be permitted to testify on that subject.

The CHAIRMAN. I understood from Mr. Leahy that you were the man who could dispute the figures of Mr. Gillett, if they were to be disputed. I understand now you can say neither yes nor no to the testimony of Mr. Gillett.

Mr. Ross. I would like to point out in connection with this that I was not the project man on that. I was supervisor of the man who was.

The CHAIRMAN. Were you not the boss of the project engineer?

Mr. Ross. Yes, sir.

Mr. CUPPS. Mr. Chairman, may I interject?

The CHAIRMAN. Can you answer that question?

Mr. CUPPS. I have an engineering statement from the firm of Carl E. Smith, Associates, which was prepared at the request of the State Department justifying the proposed design as formulated by Carl E. Smith. It is not a complete engineering study; it is a statement, a conclusion, which Carl E. Smith, Associates, reached that evaluate the original Gillett design and the antenna design installed by Carl E. Smith, Associates.

The CHAIRMAN. I would like to have that as an exhibit.

Now, if Mr. Gillett is giving us the correct picture, then I think we would all agree that we had completely sabotaged any attempt to hit the principal target area from the Vienna station. If Mr. Gillett is not giving us the facts, we would want some engineers who would tell us what they think the facts are. You tell me you cannot say "Yes" or "No."

Senator SYMINGTON. I do not think he said that, Mr. Chairman. I think he is willing to take that question up as to whether it was completely sabotaged.

Mr. GILLETT. May I interrupt there with one question. Did the figures of Mr. Gillett.

Mr. Ross. I said that——

Mr. CUPPS. I did not answer, Mr. Chairman. You have placed me in a very difficult situation. I am home on leave, I am not prepared to submit an engineering statement before your committee.

The CHAIRMAN. Why were you asked to come here?

Mr. CUPPS. I can't explain it. It is a shock to me, too.

The CHAIRMAN. I did not ask you to come over. You were here, so we wanted to hear you. The Department asked us to hear you. We try to hear every witness the Department invites over.

Let me make it clear. I am not trying to ridicule you for being unable to answer that question. I have had 2 years of engineering and I know something about it, but I would be completely incompetent to answer. You are not being criticized.

Do I understand that you cannot answer that question?

Mr. CUPPS. I would not make a positive answer "Yes" or "No." In my opinion the program has not been sabotaged.

Senator MCCLELLAN. Let us use the other word "emasculated."

Mr. CUPPS. I do not like that any better.

Senator MCCLELLAN. They mean about the same thing.

Mr. CUPPS. In effect; yes.

Senator MCCLELLAN. Sabotage, you assume, is by intent whereas it might be emasculated by error in judgment.

Senator SYMINGTON. Personally I will take sabotage.

Mr. CUPPS. I think the engineering changes effected on the Vienna installation were made with sound planning.

The CHAIRMAN. I think they were made with sound planning, but not planning to hit this target area. I agree with the witnesses who say that this could not have been the result of stupidity. I think it was sound planning, but not sound planning for America.

Let me ask you this. I want to have this straight. Mr. Leahy, if this witness cannot answer, I would like to have someone else here if there is anyone in the Department who questions the testimony of Mr. Gillett.

Here is the question. The meat of Mr. Gillett's testimony, as I get it, is that if you take this area, eliminating first the area of 150 miles around Vienna station and take this huge area extending out 650 miles, that the result of cutting the transmitter from 900 feet to 450 feet means that you lose in effect 75 percent of the listening audience in this thickly populated area during the nighttime in the winter, from 3 o'clock in the afternoon until 10 o'clock the next morning.

Do I understand you personally cannot answer whether that is true or not?

Mr. CUPPS. I would not agree with the statement because a more dominant factor is the operation of the Timisoara station rather than the height of the tower.

The CHAIRMAN. What effect would you say the reduction of the height of the tower would have on this vital area?

Mr. CUPPS. I believe the Carl E. Smith Associates are the only competent authority at this time to answer that question.

The CHAIRMAN. In other words, you cannot answer that question?

Mr. CUPPS. No, sir.

The CHAIRMAN. May I suggest, Mr. Leahy, that we will hear any witnesses you propose, but I would suggest you not embarrass young men who are unqualified to testify to the meat of the testimony that has come before this committee. It is like asking a good cook to come and testify on some veterinarian's project.

Mr. CUPPS. Mr. Chairman, I do have facts leading up to the change of the antenna which I think are pertinent to the hearing.

The CHAIRMAN. I will be glad to hear those.

Mr. CUPPS. The State Department sent an engineer, Mr. W. R. Harmon, to Vienna at the request of the Vienna Legation to investigate the feasibility of accepting the technical responsibility for the completion of the Red White Red project as conceived by Mr. Gillett. This engineer endeavored to find all the loose ends and documentation which would support Mr. Gillett's position. I was called into the project——

Mr. GILLETT. May I interrupt there with one question. Did the IIA ever ask me to help in the location of the necessary documentation?

Mr. CUPPS. I am not competent to answer that because it wasn't my business to investigate it. The engineer who was on the site could not find sufficient confirmation of all these phases and aspects in writing from the various agencies to produce a sound case on which I could proceed with construction. Therefore, before I would commit a contractor to erect a 900-foot antenna in a critical area, a Four Power city which has clearly defined air corridors from which aircraft may not deviate without fear of retaliation by Russia, I felt it extremely sound to obtain concurrences again in writing from all interested parties, chiefly civil air authorities of any government with which we were friendly.

The CHAIRMAN. Did you get such written consent from the British?

Mr. CUPPS. I could not. Efforts were made through our air attaché in Vienna who processed action, both with our own military people, the French, and the British.

The CHAIRMAN. I would like to remind you that the sworn testimony here is that such written consent was received from the British. What would you have to say about that?

Mr. CUPPS. That information was never made available to anyone investigating the matter. If Mr. Gillett has that information still in his possession, I do not understand how it could be available to us in the turnover from Army to State.

The CHAIRMAN. And do you know Colonel Hixon?

Mr. CUPPS. I know him by name.

The CHAIRMAN. Did you ever have any conversation with Colonel Hixon about this matter?

Mr. CUPPS. To the best of my knowledge, no. It was handled through the air attaché, Mr. Milton Turner. I think Senator Symington knows Mr. Turner.

The CHAIRMAN. Did you ever consult with Mr. Gillett?

Mr. CUPPS. It was not my prerogative to consult directly with Mr. Gillett. It was done through the New York engineering office.

The CHAIRMAN. Mr. Gillett was over in that area, was he not?

Mr. CUPPS. This was some time after the project had been finalized by departmental instructions to me in Vienna. I would like to go further on this subject.

The CHAIRMAN. I am curious to know why Mr. Gillett, who was doing the studying and making the plans, and you, who were also there—you were the construction engineer and Mr. Ross was your boss—never got together. Did not someone introduce you?

Mr. CUPPS. I never knew Mr. Gillett personally until he came to my office in Vienna some time in the fall of 1951. I think by that time the antenna had been erected. Is that correct?

Mr. GILLETT. Mr. Chairman, Mr. Cupps and I were not in Vienna together at the time I was in the Army. I was there in 1950 and he was there in 1951. The only time he was there when I was is when I called upon him in November 1951, around Thanksgiving. It was the Thanksgiving week.

The CHAIRMAN. Did you have any agreement with the Austrian Government as to how this broadcasting station would be operated?

Mr. CUPPS. I am not competent to answer that. It is a policy matter.

The CHAIRMAN. Do you know, Mr. Ross?

Mr. ROSS. No, sir. I may have something here.

The CHAIRMAN. Do you know whether or not there was an agreement with the Austrian Government?

Mr. ROSS. I have no direct knowledge of it; no.

The CHAIRMAN. It would seem that would be one of the first things you would think of when you go over to erect something as important as this, to find out whether you could broadcast in German, Russian, or whatever language. Do you know whether there was such an agreement?

Mr. CUPPS. That was concurred upon before I got there. I had no reason to doubt that there was not approval.

The CHAIRMAN. Approval to broadcast in what language?

Mr. CUPPS. I am not prepared to answer that.

Mr. ROSS. I would like to state that was also not my responsibility.

The CHAIRMAN. Whose responsibility would that be?

Mr. ROSS. I would think it would be the responsibility of the policy desk here in Washington, the position, I believe, which is held by Mr. Walter Roberts at this time.

The CHAIRMAN. The question that occurs to me—and this is no criticism of you—is how could you intelligently plan a broadcasting station not knowing what your target area would be? For example, if they would not let you broadcast in Russian from that station, the design of your equipment might be entirely different. Would you not have to know that before you could plan the project?

Mr. ROSS. The basis for our action was direct instructions from the Office of the Chief Engineer which was backed up by a report which was received from the office in Vienna which was signed by Mr. Moffly, the public affairs officer. One of the documents—the entire document, I might say, is classified—which was attached indicated that the purpose of this network was to supply Austrian programs to Austrian listeners. That is the basis on which we furthered the plans and went ahead with the construction.

The CHAIRMAN. Mr. Gillett, do you know when the plan of the Army to build a transmitter to beam material into Russia was changed so that the project became one to beam Austrian programs to the Austrian people? Do you know anything about that?

Mr. GILLETT. It was never changed by the Army.

The CHAIRMAN. In other words, that change was made after the State Department took over?

Mr. GILLETT. Definitely. The Army's directive was to put the most signal we could into Vienna and Austria to the eastward and on to the east. I know it was planned not only to broadcast in the German language but to take advantage of the late hours to broadcast in other languages.

The CHAIRMAN. What other broadcasting stations do we have in that area that are being used to beam material into Russia?

Mr. CUPPS. To my knowledge, there are none in that area beaming programs into Russia. The nearest facility would be in Munich. Is that correct?

Mr. GILLETT. I think that is right. And the Munich stations are beamed to the east and north.

Mr. CUPPS. They have a number of beams available. They don't use the same beam all the time.

The CHAIRMAN. Mr. Gillett, do you know anything about the type of broadcasting facilities we have over there in Munich or any place else which are today being used to beam programs into Russia?

Mr. GILLETT. Not specifically, sir. I have not worked on that problem. It would be interesting, for instance, what height antennas and wavelengths are used and what frequency in Munich now.

Mr. Ross. The entire facility in Munich at this time consists of two 75-kilowatt high-frequency transmitters, two 100-kilowatt high-frequency transmitters, a 300-kilowatt medium-wave transmitter, four 8-kilowatt high-frequency transmitters.

Mr. GILLETT. What frequency does your 300 operate on and what height antennas?

Mr. LEAHY. Is that classified?

Mr. Ross. No; that is not classified information.

Mr. GILLETT. It could not be.

Mr. Ross. The frequency of the medium transmitter is 1,196 kilocycles.

The CHAIRMAN. The question I have in mind is this: When this project was abandoned, the one that the Army had planned, by the State Department, I am curious to know whether some other project has taken its place?

Mr. CUPPS. Not as such, but the antenna originally intended for use in Vienna is at present approximately two-thirds erected. I just came from Germany.

Mr. Ross. It has been erected to a height of 800 feet, I have been informed.

The CHAIRMAN. In other words, this 900-foot tower is being used someplace else?

Mr. CUPPS. Yes.

The CHAIRMAN. Where?

Mr. CUPPS. In the Munich area.

The CHAIRMAN. And do you have the same target area in mind for that?

Mr. CUPPS. I am not competent to answer that.

Mr. GILLETT. Is it being used in the middle wave band?

Mr. Ross. Long-wave installation.

Mr. GILLETT. It is not a broadcasting station at all.

The CHAIRMAN. I do not follow that.

Mr. GILLETT. There has been historically in Europe a few very low frequencies, around 170-megocycle frequency, used for broadcasting before shortwave came into use and before FM frequency modulation came into use. The 173-megocycle frequency was originally allocated to Moscow in the Copenhagen agreement. That frequency was supposed to be used with 500 kilowatts. The Russians think so little of it and so few sets will pick it up that they are not even operating on 173 kilocycles.

The CHAIRMAN. Do I understand that is what we are planning?

Mr. GILLETT. That is what the 900-foot tower is to be used for, in that low band.

The CHAIRMAN. Mr. Cupps, do you agree with that, that that low band will not reach any listener audience?

Mr. CUPPS. That is outside of my field of activity. I would not be competent to say it would not reach the listener audience. Mr. Ross would be competent.

Mr. Ross. I would like to comment on that. To begin with, I would like to state that it is not a correct statement to say there are no receivers in the target areas which can receive on the long-wave band. I don't have all the information on receivers. However, there is someone here who does, whom I would like to have testify on that. I do know that all the Russian receivers which we tested in our own laboratory were equipped with long-wave band.

Mr. GILLETT. Do you know whether the Russian station on 173 kilocycles in Moscow is now operating at all or not?

Mr. Ross. I do not have that information. We have a complete study on the long-wave antenna which is available for the committee's inspection.

Mr. GILLETT. Mr. Chairman, the information which I have is classified, but it is incredible to me that in view of what I know of the plans for the station which is using this antenna and is to operate on the long-wave band, that the IIA does not have complete monitoring information and all information on whether the station in Moscow is operating on 173 kilocycles. The reasons for that I cannot give because they are classified, but Mr. Ross knows the reasons and I know the reasons.

Mr. Ross. In reference to that, I would like to state, of course, that I think we have already breached security on this in stating the frequency.

Mr. GILLETT. Nobody has stated any frequency.

Mr. Ross. You mentioned a frequency of 173 kilocycles.

Mr. GILLETT. As the frequency of Moscow. You are the only one that has violated any frequency security.

Mr. Ross. Did you not infer that we were going to use that frequency?

The CHAIRMAN. That is all right. Do any of you gentlemen have anything further to add to the picture?

Mr. CUPPS. Yes, sir.

The CHAIRMAN. Proceed.

Mr. CUPPS. The air attaché, when he queried the British, received a voluminous report carefully evaluating the effect of the 900-foot antenna with respect to air operations at Schewacht airfield. There is a report available in Vienna. It may be available in New York, but I certainly did not come with it. This report indicates that any aircraft passing over the Steinhof site on a standard instrument approach would cross the station at a point 250 feet below the elevation of the top of the 900-foot tower, and in view of the limited width of the corridor—this is supported by fact by the British Air Ministry—if we cut the antenna to 650 feet we would still be at the same elevation as the airplane.

The CHAIRMAN. Have you seen that report?

Mr. CUPPS. I have; not in New York. It is in my office in Vienna.

Mr. GILLETT. If that is true, your 250-foot clearance is only a quarter of what the CAA requires for glide tests here.

Mr. CUPPS. I am not prepared to argue that. I am merely stating facts as submitted by the British Air Ministry as supplied me by the air attaché.

The CHAIRMAN. We will now adjourn until tomorrow morning. I am going to ask Mr. Leahy if he has any witnesses that can testify on this transmitter that is to beam to Russia——

Mr. LEAHY. I believe Mr. Ross would be able to do so.

The CHAIRMAN. He just got through telling me he could not.

Mr. LEAHY. He would have to have an opportunity to check his figures.

Mr. ROSS. This is something that would require a great deal of study, probably several weeks or a month's work. I feel we have a competent consultant who is far better qualified than I am, and as a good businessman I would recommend we use Carl E. Smith, one of the foremost authorities on the subject in the country.

The CHAIRMAN. May I say to Mr. Leahy that we will be glad to call any witness he would like us to call on the subject. I think if this witness says it would take a month to make the study, we cannot wait that long.

Mr. LEAHY. But I believe this witness has a chart of a similar nature.

Mr. ROSS. That is contained in the engineering statement which Mr. Cupps referred to.

Mr. LEAHY. That has been introduced in the record, I believe.

Mr. GILLETT. That is solely on daytime coverage.

Mr. CUPPS. That is right.

Mr. GILLETT. It begs the complete issue of the depreciation of service at night by fading.

Mr. CUPPS. I think Mr. Smith will probably offer his statement in support of what he has done.

The CHAIRMAN. Thank you, gentlemen.

Mr. CUPPS. He is in Cleveland, Ohio, and will be available, if called, for tomorrow.

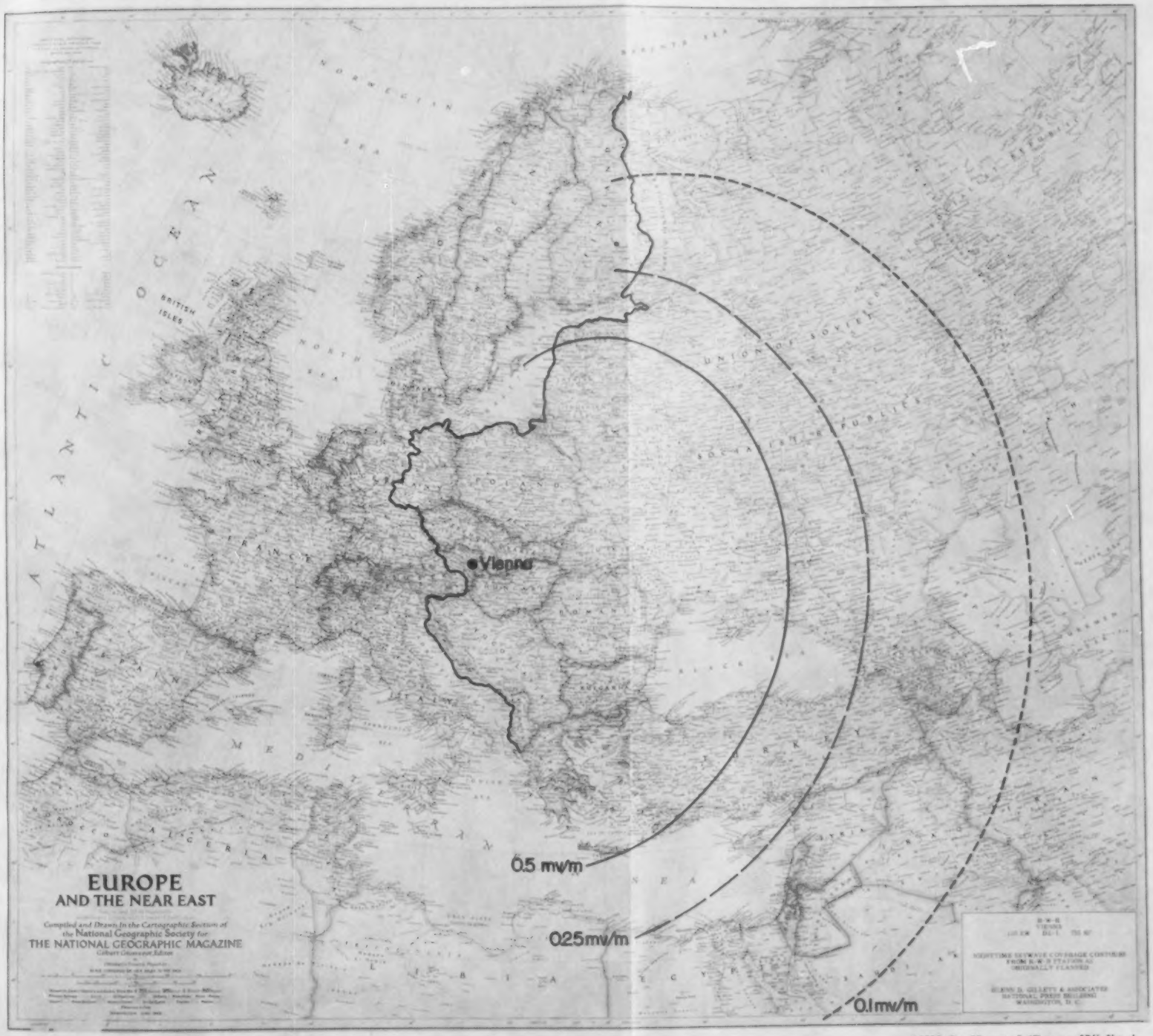
The CHAIRMAN. We will adjourn until 10:30 tomorrow morning. May I say tomorrow morning we are exploring a matter referred to us by the Appropriations Committee, and the chairman of that committee will be present, and I have invited him to take part in any questioning if he cares to. It has to do with the *Vagabond* project and the *Courier* project.

We also have subpenaed a witness from New York who refused to appear today. He is under subpena now. He will be put on first. That will not have to do with either the subject we are talking about today or the subject of the *Courier* ships.

Mr. Leahy, if you have an engineer who disagrees with what Mr. Gillett says, who wishes to come here to testify, I will be glad to have him do that. Keep in mind when we are speaking to you about these witnesses we do not consider you as a protagonist for any side of the discussion. It is merely that we would like to have you act as liaison so we do not get merely one side of the picture. If there is someone who can give the other side of the picture, we want to hear him.

(Whereupon, at 4:35 p. m. Thursday, March 12, 1953, the committee was recessed until 10:30 a. m. Friday, March 13, 1953.)

EXHIBIT 54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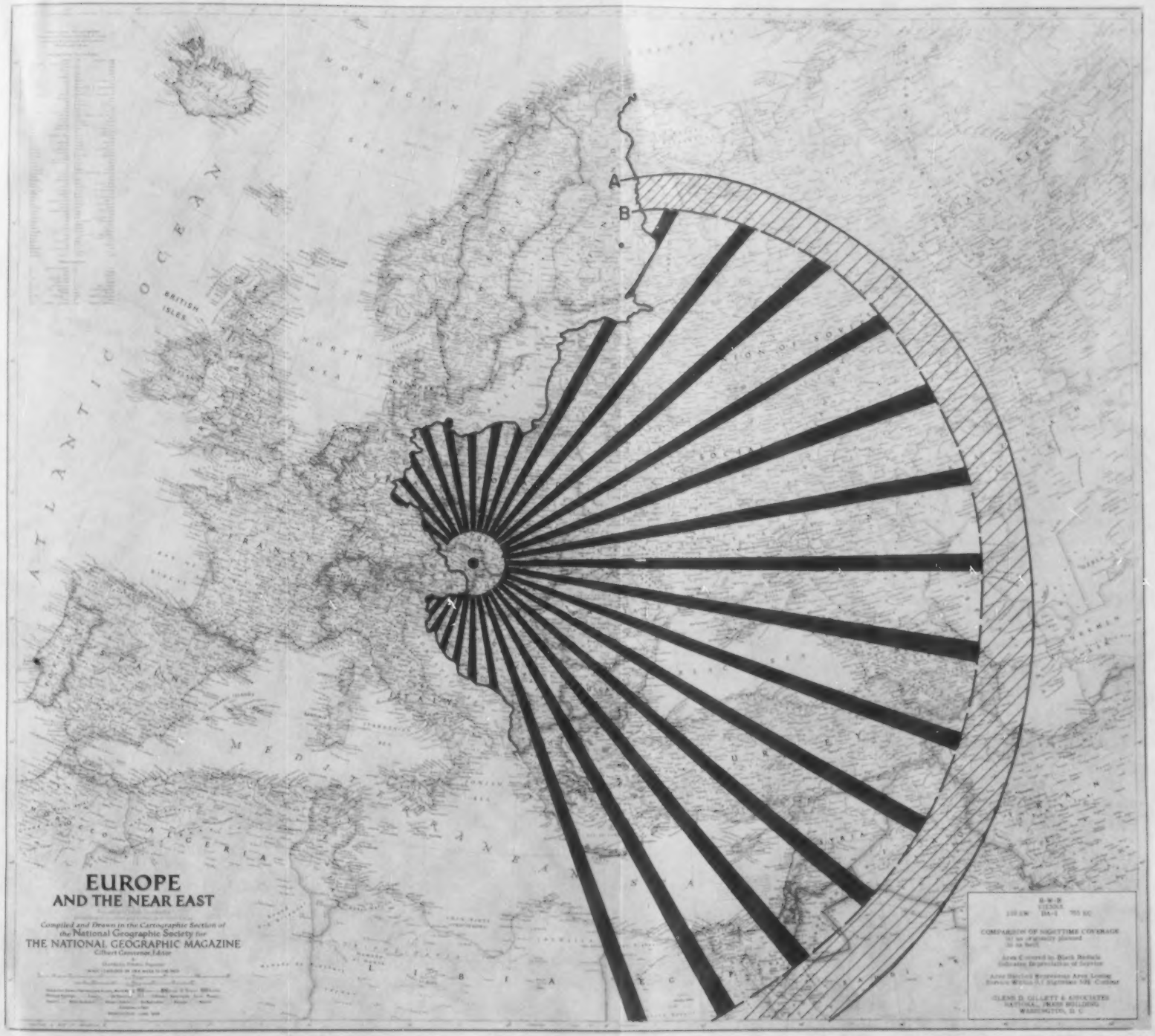
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